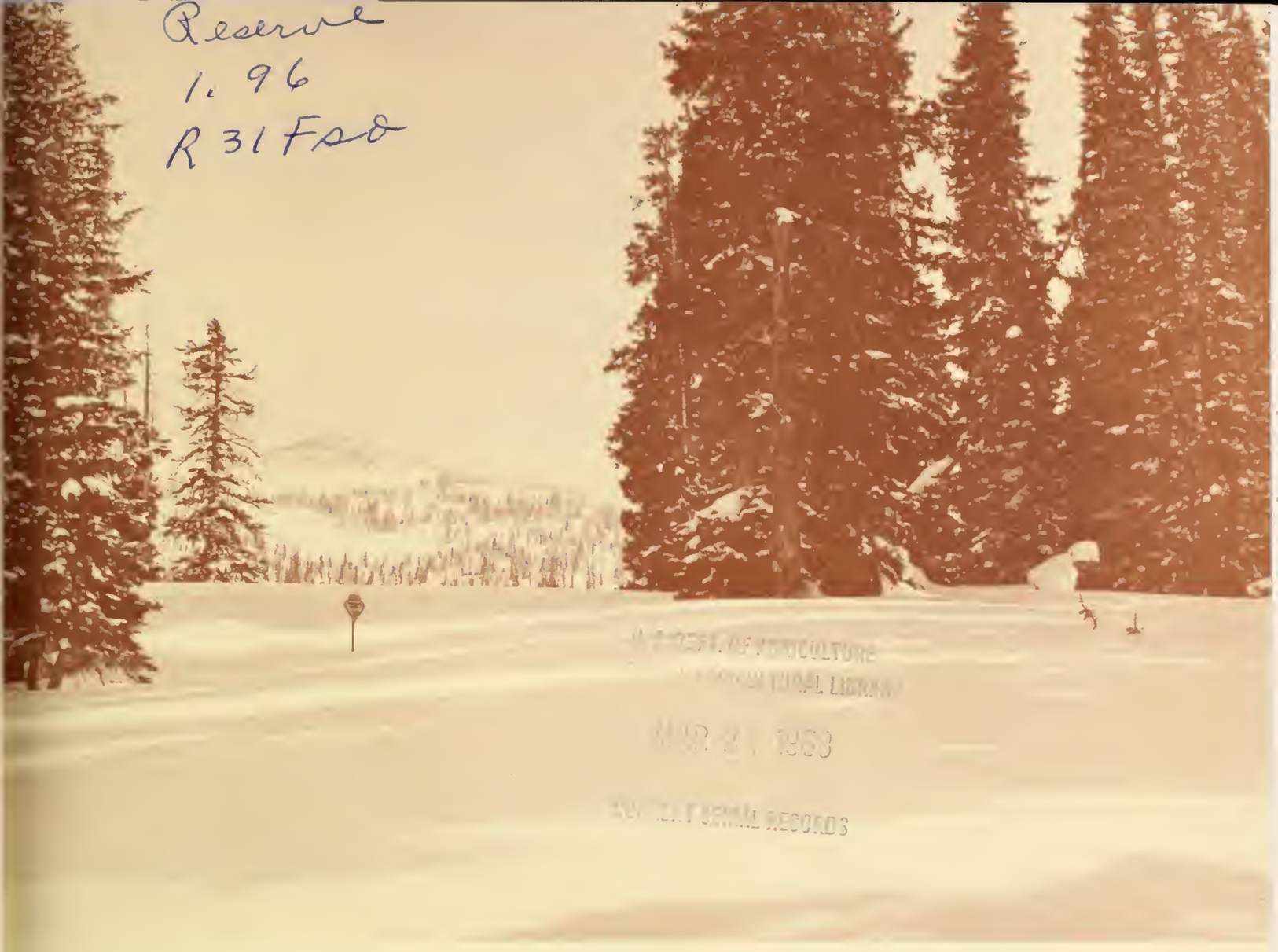

WATER SUPPLY OUTLOOK FOR OREGON

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE

and

OREGON STATE UNIVERSITY

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above in cooperation with other Federal, State and private organizations.

AS OF
MAR. 1, 1968

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data or reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

D. A. WILLIAMS, Administrator

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 507, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85205
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	P. O. Box 38, Boise, Idaho 83707
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Building, Salt Lake City, Utah 84111
Washington	360 Federal Office Building, Spokane, Washington 99201
Wyoming	P. O. Box 340, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia

USDA-SCS-PORTLAND, OREG 1966

WATER SUPPLY OUTLOOK FOR OREGON

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued

MARCH 8, 1968

Issued by

D.A. WILLIAMS

ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D.C.

Released by

A.J. WEBBER

STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
PORTLAND, OREGON

In Cooperation with

G. BURTON WOOD

DIRECTOR
OREGON AGRICULTURAL
EXPERIMENT STATION

CHRIS L. WHEELER

STATE ENGINEER
STATE OF OREGON

Report prepared by

W.T. FROST, Snow Survey Supervisor
and
TOMMY A. GEORGE, Assistant Snow Survey Supervisor

SOIL CONSERVATION SERVICE
1218 S W WASHINGTON ST.
PORTLAND, OREGON 97205

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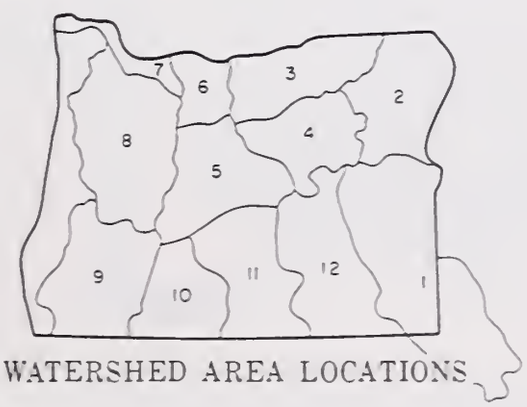
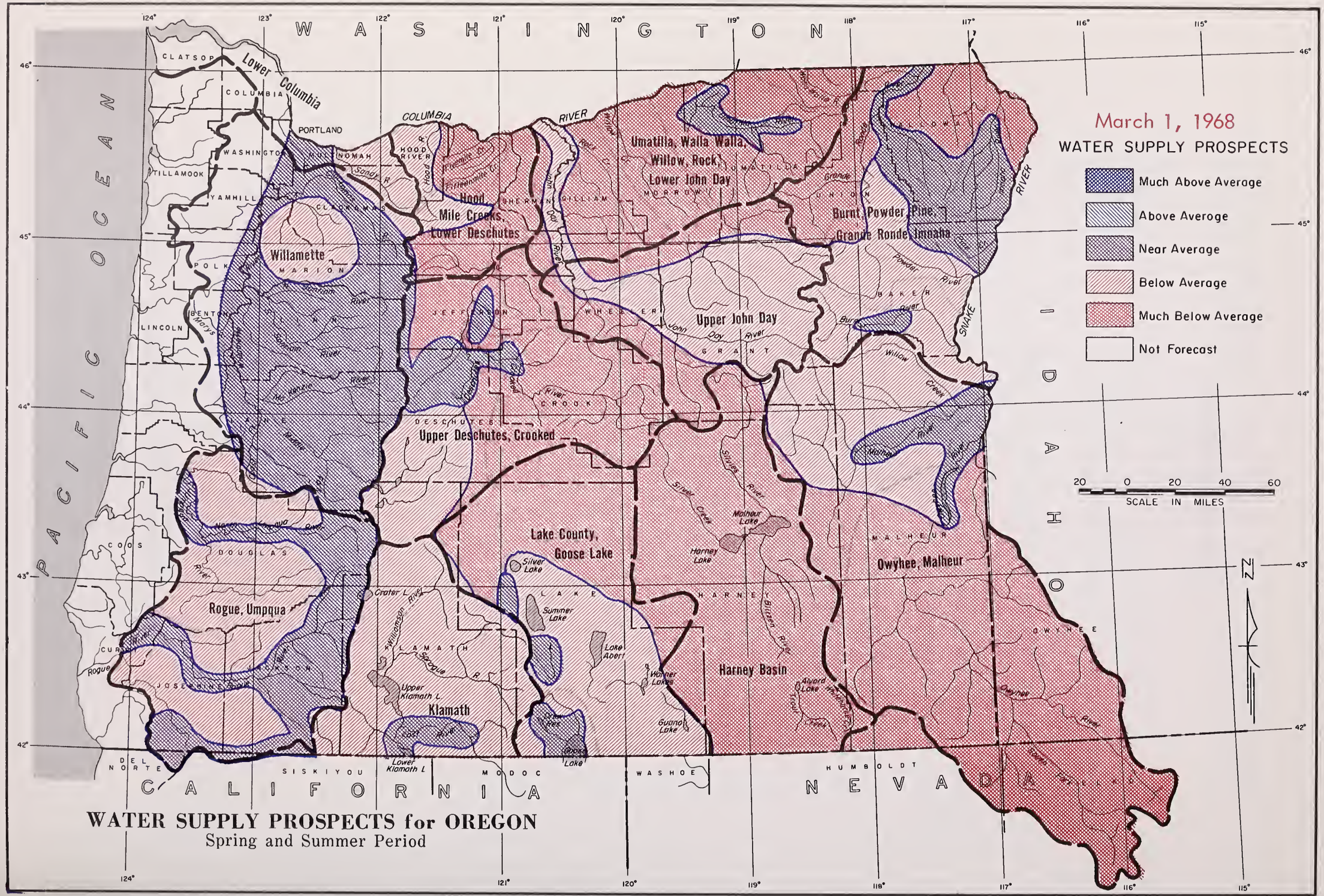


WATERSHED AREA LOCATIONS



WATER SUPPLY PROSPECTS for OREGON

Spring and Summer Period

WATER SUPPLY OUTLOOK for OREGON

March 1, 1968

Severe drought conditions are forecast throughout most of Oregon, for the spring and summer of 1968, with extensive repercussions probable in dry-farming, irrigation, grazing and fire control.

About two-thirds of Oregon's irrigated lands, with no access to stored water, will have from one-third to two-thirds less water than usual. The remaining irrigated acres, served wholly or in part from stored water, will have nearly adequate water supplies if water users practice efficient water management.

PRECIPITATION

Winter precipitation, November through February, according to the U. S. Weather Bureau has ranged from a low 66 to 70 percent of the average in the mid-section of the State, from Harney Basin through the John Day, Crooked and Hood River areas, to highs of 82 to 86 percent in the north-eastern corner in the Umatilla and Wallowa areas. Elsewhere precipitation has been about 75 percent of the average.

SNOW COVER

Water content of the mountain snowpack, greatly reduced by warm temperatures and direct rainfall, varies from extreme lows of 18 to 22 percent of the average for March first on the Owyhee, Crooked and Umatilla-Walla Walla watersheds on up to 56 and 57 percent in the Rogue-Umpqua, Klamath and Lake County areas and a high of only 64 percent average in the Wallowa region.

The snow is essentially gone from all low and middle elevations and remains only at the higher elevations. Some ski areas of the State have been forced to close and others are nearing this point.

SOIL MOISTURE

Soils under the mountain snowpack and at lower elevations also have increased favorably in moisture content due to unseasonable melting snow and rainfall.

RESERVOIR STORAGE

Stored water supplies in 24 Oregon irrigation reservoirs totals 1,935,400 acre feet or 106 percent of the average for March first. This is 363,000 acre feet more than was available a year ago. Inflow to reservoirs was greatly increased by the late-February snowmelt and rainfall.

continued--

Serious shortages of water are probable for lands served from Antelope Reservoir in Malheur County and McKay Reservoir in Umatilla County. Possibility of water shortages is strong for lands served from Cold Springs Reservoir in Umatilla County, Crane Prairie and Wickiup Reservoirs in Deschutes County, and Fourmile and Fish Lake Reservoirs in Jackson County. Water supplies forecast for the Warmsprings and Vale-Oregon Irrigation Districts in Malheur County are dangerously close to the point of shortages.

STREAMFLOW

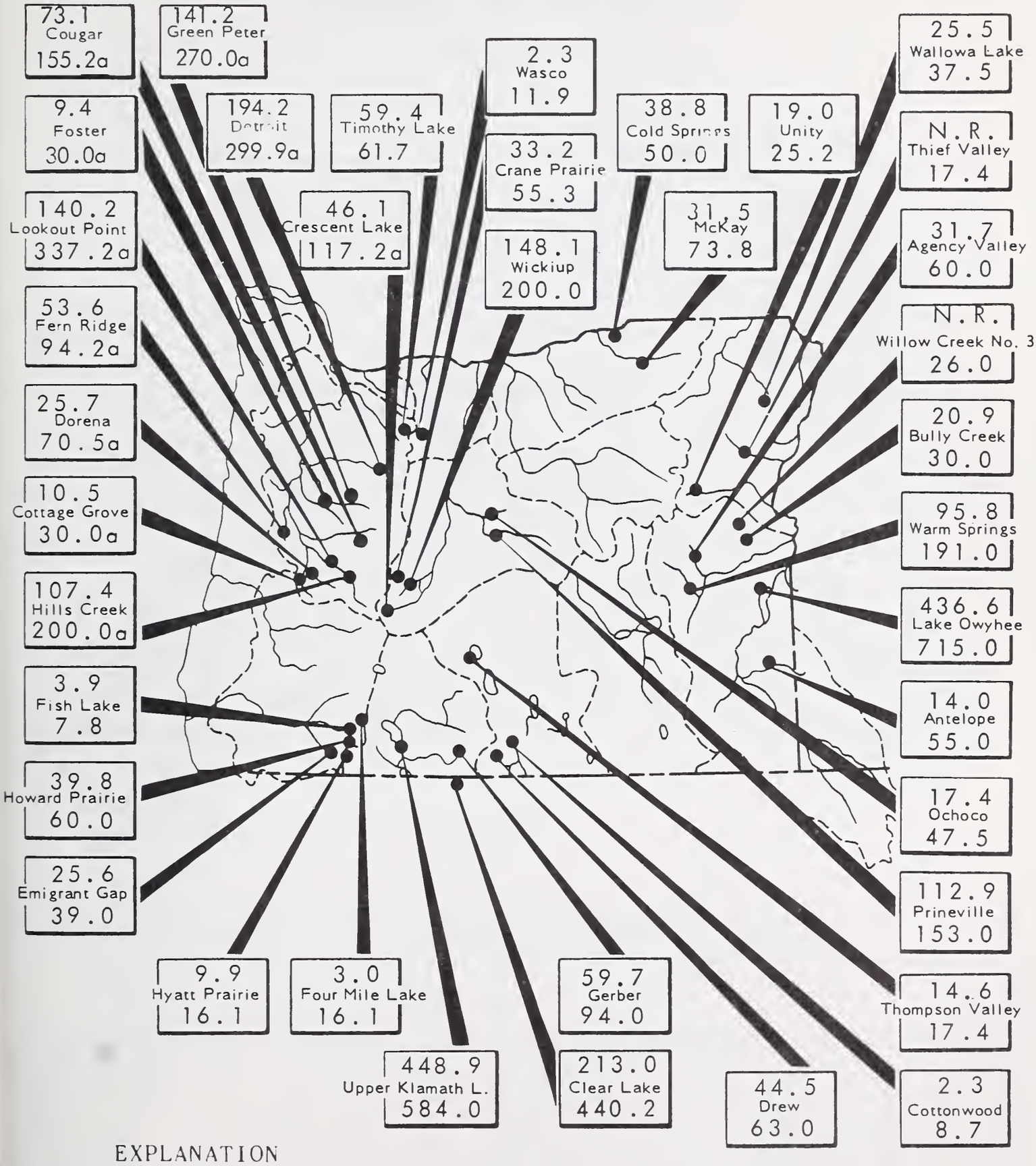
Flow of Oregon streams in the spring and summer of 1968 is expected to be far below the average flows. Most streams are forecast between 20 and 70 percent of the 15-year, 1948-62, average. A few streams in Wallowa County will have flows from 80 to 95 percent average. Many small Eastern Oregon streams, heading in low to moderate elevations, have already completed their flows for the year unless very heavy snowfall or rains are received in the near future.

The following representative forecasts are compared with the 15-year average (1948-62) and are made on the assumption of near average conditions of temperature and precipitation for the next five months:

Stream Station	Period	Percent Average
Inflow to Lake Owyhee	March-July	20
Malheur R. near Drewsey	March-July	50
Burnt R. near Hereford	March-June	67
Powder R. near Baker	April-July	68
Lostine R. near Lostine	April-September	95
Grande Ronde R. at La Grande	March-July	34
South Fork Walla Walla R.	March-September	67
Umatilla R. at Pendleton	March-September	62
John Day R. at Prairie City	March-July	68
Crooked R. near Post	March-July	32
Deschutes R. at Benham Falls	April-September	65
Hood R. near Hood River	April-September	63
Willamette R. at Salem	April-September	72
North Umpqua below Lemolo	April-September	75
Rogue R. at Raygold	April-September	75
Inflow Upper Klamath Lake	April-September	61
Chewaucan R. near Paisley	March-June	72
Drews Reservoir Inflow	March-July	53
Silvies R. near Burns	April-September	25
Blitzen R. near Frenchglen	April-September	34

STORAGE STATUS of OREGON RESERVOIRS
usable contents in thousands of acre feet

March 1, 1968



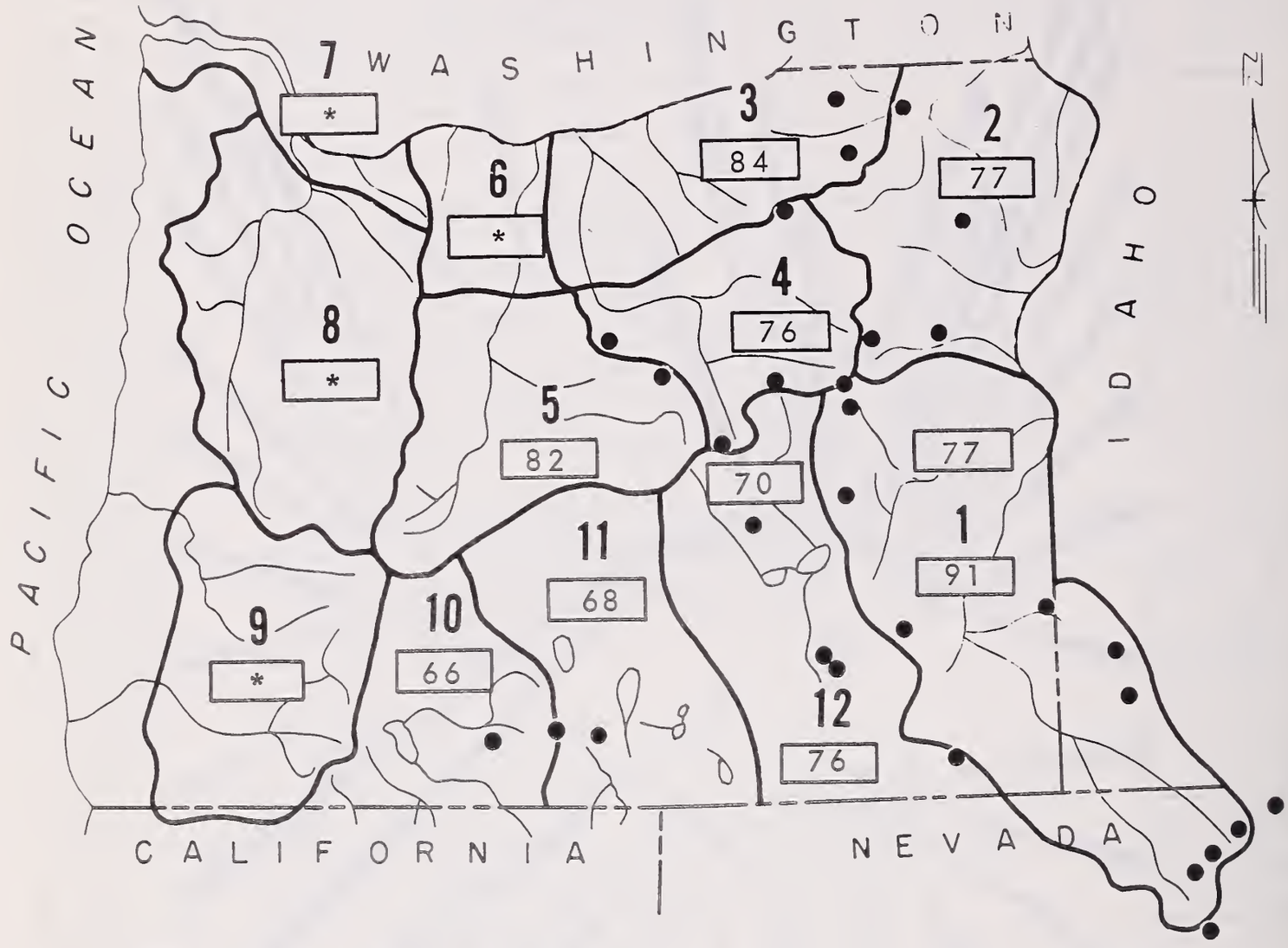
EXPLANATION

687.0 Lake Owyhee 715.0 ---Contents ---Capacity

(a) Multiple purpose reservoir - space reserved for flood runoff.
N. R. - No report.

MOUNTAIN SOIL MOISTURE in OREGON
as percent of capacity

March 1, 1968

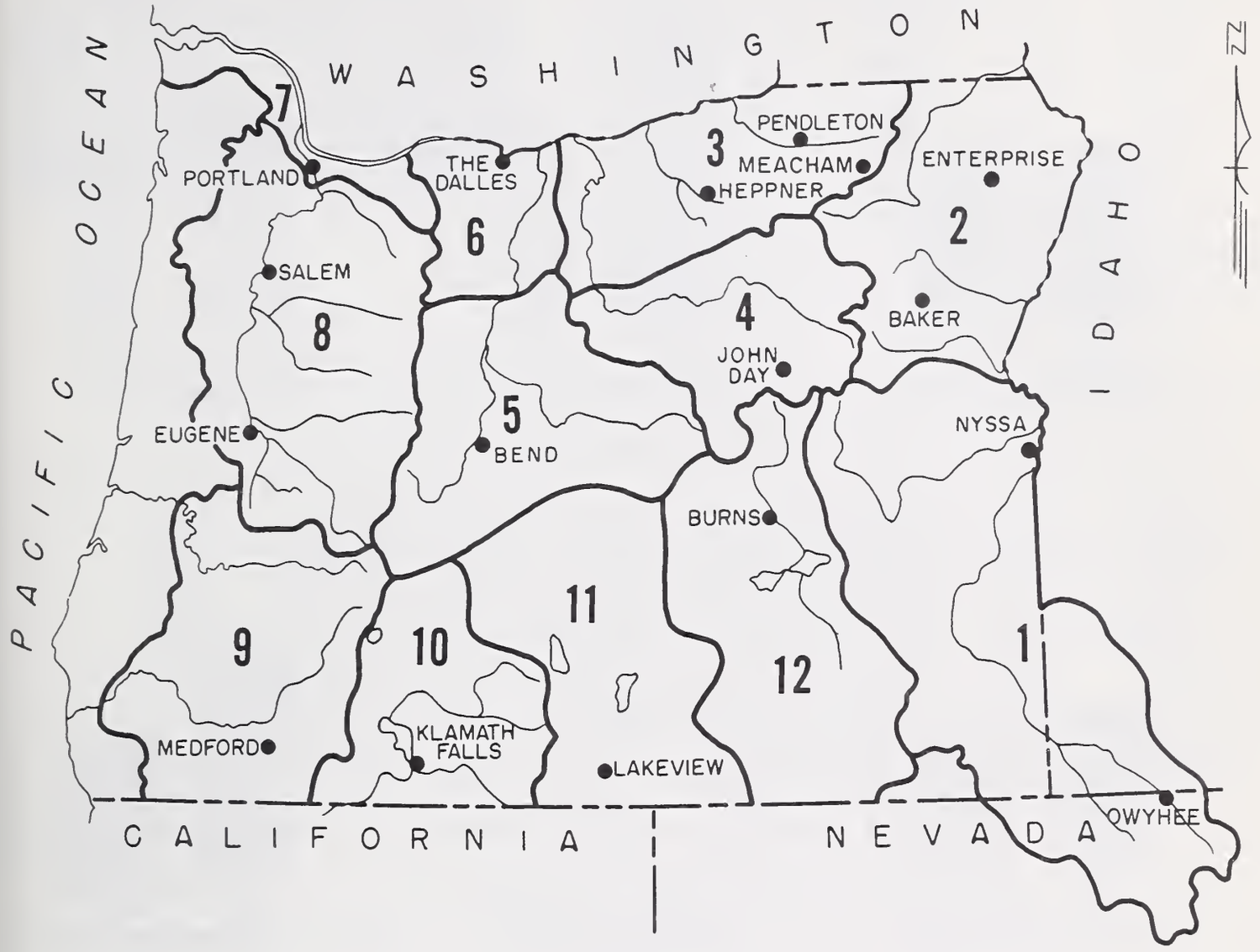


● Soil Moisture Station

**Moisture studies not yet developed in these areas.*

VALLEY PRECIPITATION in OREGON [a]

March 1, 1968

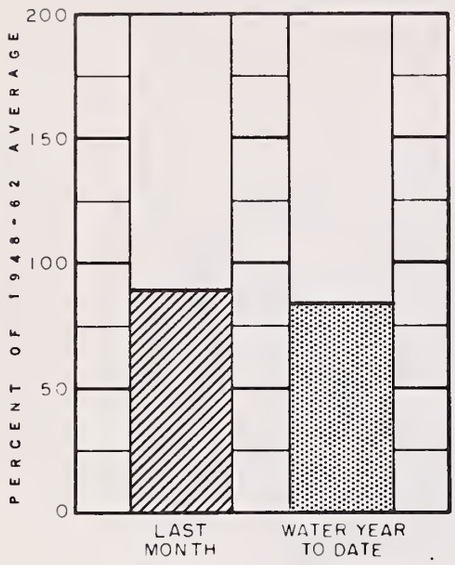


PRECIPITATION as PERCENT of the 1948-62 AVERAGE					
STATION	LAST MONTH	WATER YEAR TO DATE [b]	STATION	LAST MONTH	WATER YEAR TO DATE [b]
Baker Apt.	161	97	Lakeview	152	96
Bend	88	55	Meacham	119	100
Burns	130	89	Medford Apt.	111	83
Enterprise	82	92	Nyssa	165	82
Eugene Apt.	103	88	Pendleton Apt.	150	60
Heppner	91	68	Portland Apt.	136	87
John Day	68	71	Salem Apt.	128	94
Klamath Falls Apt.	86	52	The Dalles	140	72
			Owyhee (Nev.)	120	85

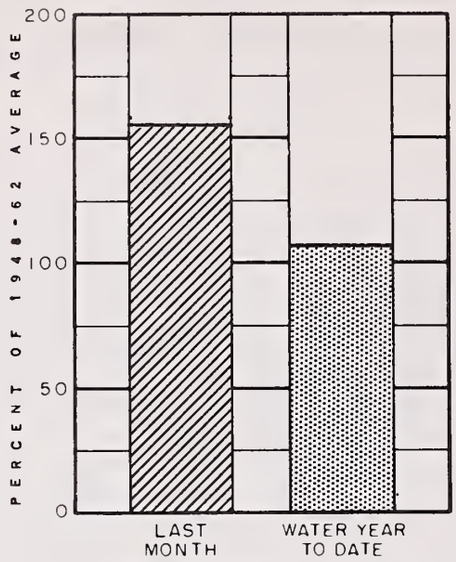
(a) Preliminary data furnished by the U.S. Weather Bureau. (b) Oct. 1 to date. (c) Report delayed.

CURRENT OREGON STREAMFLOW

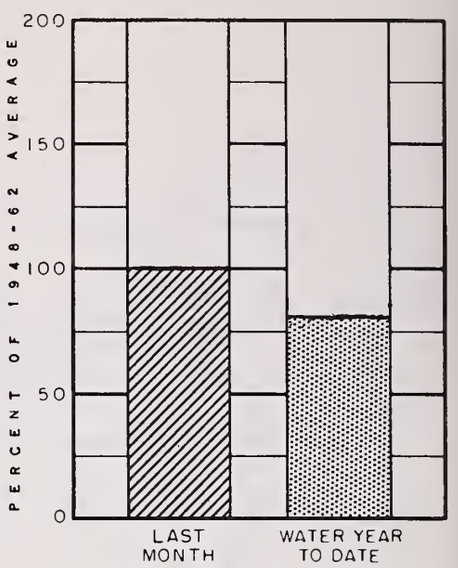
March 1, 1968



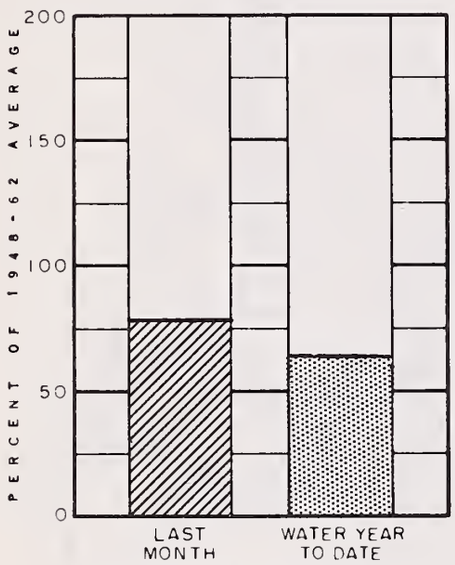
Owyhee Lake net inflow



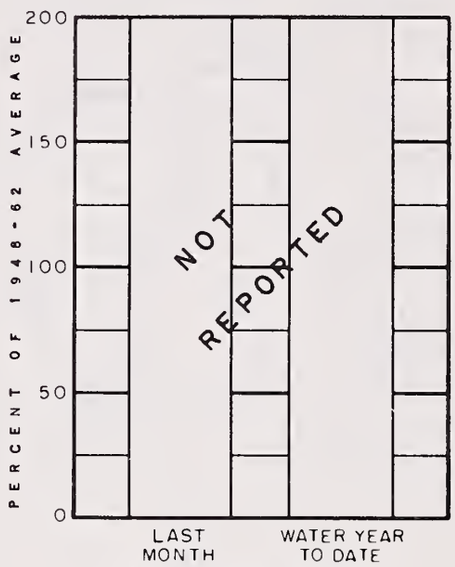
Grande Ronde at La Grande



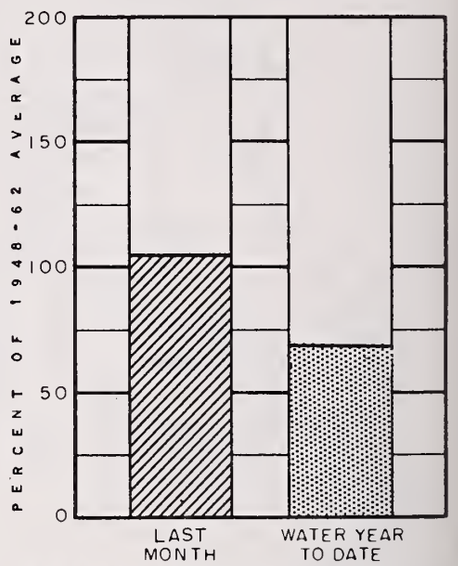
Umatilla at Pendleton



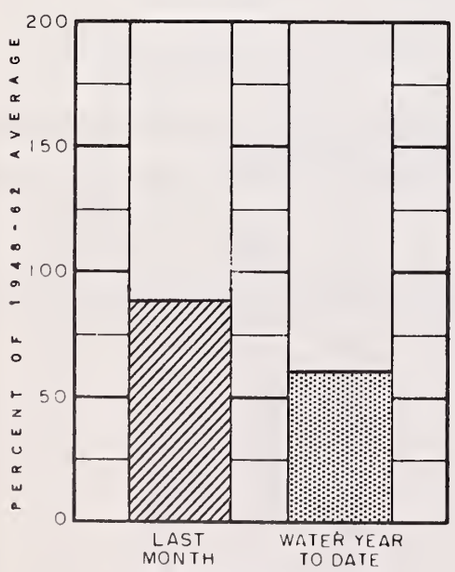
John Day at Service Creek



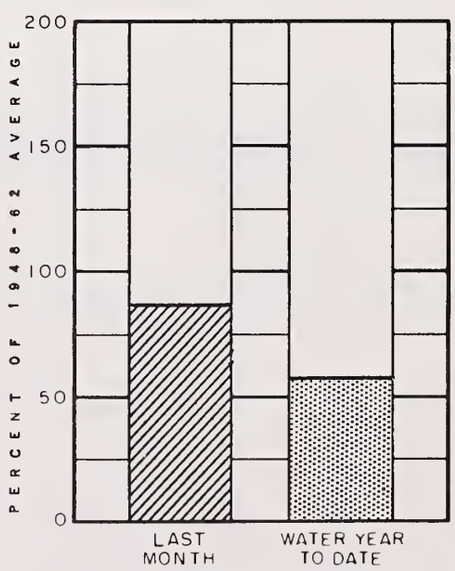
Deschutes at Moody



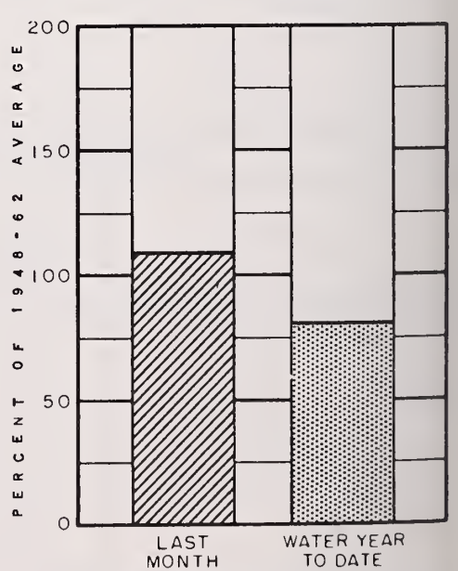
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow

Data furnished by U.S. Geological Survey; The Pacific Power and Light Co.; and North and South Boards of Control Owyhee Project.

WATER SUPPLY OUTLOOK
OWYHEE, MALHEUR WATERSHEDS
OREGON

as of

MARCH 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Severe drought conditions are forecast for Malheur County this spring and summer and farmers, ranchers and other water users can expect barely adequate water supplies only where stored water is available and adequate. All other areas will experience a severe shortage of water.

SNOW COVER

Water content of the mountain snowpack has decreased because of rains and warm temperatures at all but the highest elevations and is now about 18 per cent of the 1948-62 average on the Owyhee and 53 percent average on the Malheur. Only in 1963 was the snow situation any worse. Snow was not measured in the winter of 1934 which was the winter of a major drought.

RESERVOIR STORAGE

Water stored in Lake Owyhee on March first was about 436,600 acre feet compared with 261,800 acre feet a year ago. Adding this stored water supply to the 92,000 acre feet forecast to enter the lake March through July would give a total of about 528,000 acre feet. This figure can be supplemented with pumpage to provide necessary additional water supplies.

Antelope Reservoir held only 14,000 acre feet on March first, but while the flow of Jordan Creek is forecast at only 44,000 acre feet, March through July, much of this water cannot be direrted to the reservoir. There will likely be a shortage of water on the Jordan Valley Irrigation District.

Total water stored in Warmsprings, Agency Valley and Bully Creek Reservoirs was about 148,400 acre feet on March first compared with only 117,000 acre feet last year on this date. Add the forecasted flow of the Malheur at Drewsey 53,000 acre feet, and the Malheur at Beulah, 40,000 acre feet for the March through July period and the total is about 168,000 acre feet with expected losses deducted. This amount allows for little or no carryover for next season's irrigation.

STREAMFLOW

The following forecasts of Malheur County streams are compared with the 15-year average (1948-62) and are made with the important assumption that near-average conditions of temperature and precipitation will prevail for the next five months:

Stream Station	Period	Thousands of Acre Ft.	Percent Average
Jordan Creek	March-July	44	38
Malheur-Drewsey	March-July	53	50
Malheur-Beulah	March-July	40	56
Lake Owyhee Inflow	March-July	92	20

Report prepared by
W.T. FROST AND TOM GEORGE
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Boulder Creek	Fair	Poor
Bully Creek	Poor	Poor
Cow Creek	Poor	Poor
Jordan Creek	Fair	Poor
Jordan Valley Irrig. Dist.	Fair	Fair
McDermitt Creek	Poor	Poor
Oregon Canyon Creek	Poor	Poor
Owyhee Project	Average	Average
Succor Creek	Poor	Poor
Tenmile Creek	Poor	Poor
Vale-Oregon Irrig. Dist.	Average	Average
Warmsprings Irrig. Dist.	Average	Average
Willow Creek (Reservoired)	Fair	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.) March 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Agency Valley	60.0	31.7	26.8	29.3
Antelope	55.0	14.0	16.0	9.8
Bully Creek	30.0	20.9	15.0	- -
Lake Owyhee	715.0	436.6	363.3	410.4
Warmsprings	191.0	95.8	75.4	70.9
Willow Creek #3	26.0	[b]		

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of March 1, 1968

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
1780	Jordan Creek above Lone Tree Creek	44	March-July	116	38
2140	Malheur near Drewsey	53	March-July	106	50
		40	April-Sept.	82	49
2175	Malheur, North Fork at Beulah[d]	40	March-July	72	56
		33	April-Sept.	65	51
1825	Owyhee Reservoir net Inflow[k]	92	March-July	467	20
		100	April-Sept.	383	26

SOIL MOISTURE

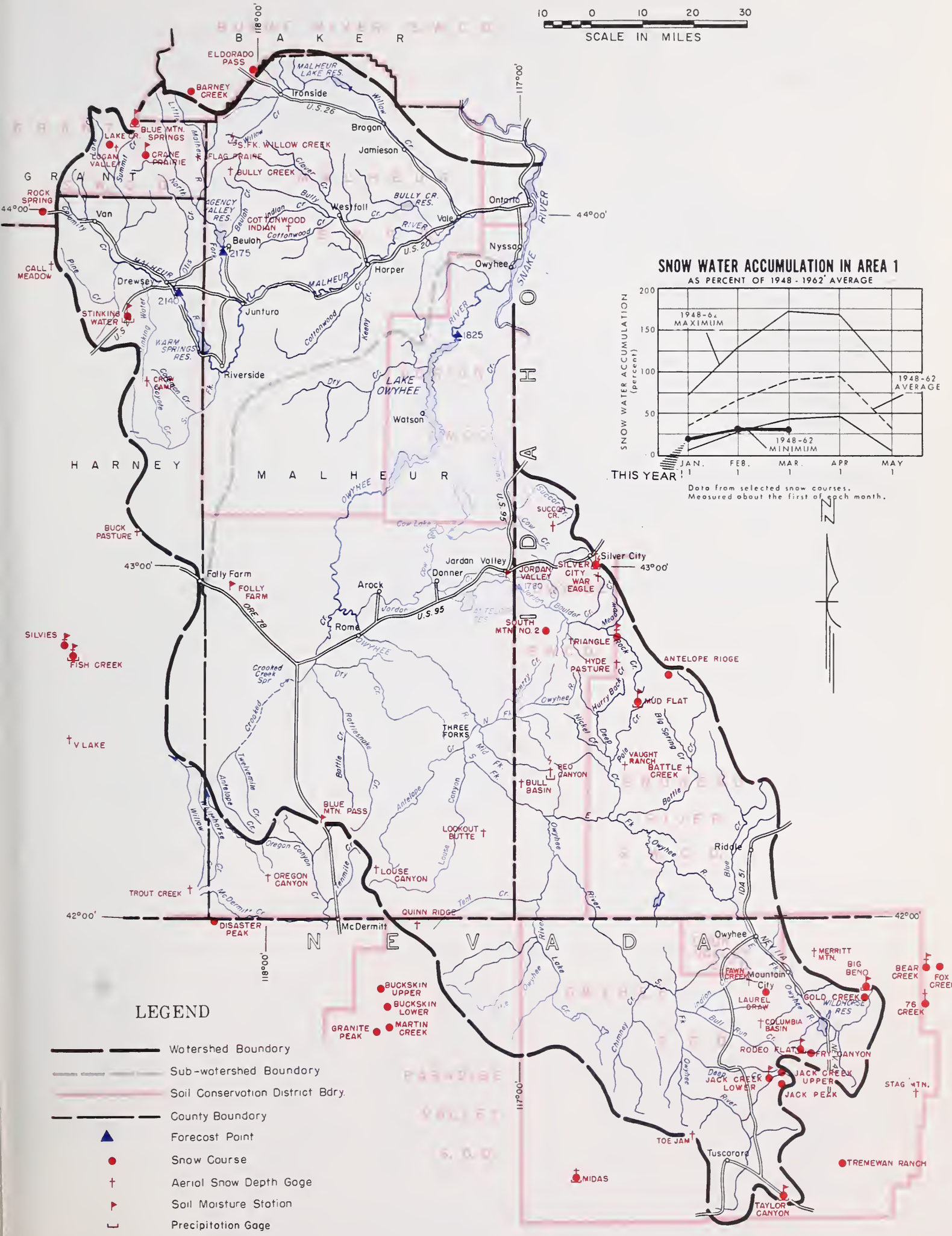
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bear Creek (Nev.)	7800	72	16.8	2/26	8.8	8.7	11.0
Big Bend (Nev.)	6700	48	16.7	2/29	15.5	15.1	15.1
Blue Mtn. Springs	5900	42	16.9	2/28	11.3	10.8	7.0
Crane Prairie	5375	48	18.2	2/28	15.6	16.2	14.9
Folly Farm	4450	30	12.5	[c]			
Jack Cr., Lower (Nev.)	6800	48	8.6	[c]			
Jordan Valley	4390	48	19.3	2/28	15.3	14.7	14.6
Mud Flat (Ida.)	5500	48	12.8	2/26	13.1	14.4	10.6
Rodeo Flat (Nev.)	6800	42	11.0	2/29	10.9	10.5	10.6
Stinking Water Summit	4800	48	21.9	[c]			
Taylor Canyon (Nev.)	6200	48	15.1	2/29	14.6	12.2	12.4
Triangle (Ida.)	5150	48	16.6	[c]			

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches)	
					LAST YEAR	1948-62 AVERAGE
Antelope Ridge (Ida.)	5900	2/26	0	0.0	7.5	- -
Barney Creek	5950	2/28	14	4.7	7.6	7.5
Battle Creek[e] (Ida.)	5700	2/27	0	0.0	3.6	3.6[h]
Bear Creek (Nev.)	7800	2/26	39	13.2	18.1	16.6[h]
Big Bend (Nev.)	6700	2/29	8	2.9	6.5	8.5
Blue Mountain Springs	5900	2/28	28	9.7	11.6	15.2
Buck Pasture[e]	5700	2/27	0	0.0	3.2	- -
Buckskin, Lower (Nev.)	6700	2/29	9	3.0	7.3	8.5[h]
Buckskin, Upper (Nev.)	7200	2/29	15	4.4	8.6	7.9[h]
Bull Basin[e] (Ida.)	5600	2/27	0	0.0	T	- -
Bully Creek[e]	5300	2/27	0	0.0	1.8	3.7[m]
Call Meadow[e]	5340	2/27	0	0.0	3.2	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (l) Ground measurement. (m) Average for 5 or more years in base period.

OWYHEE, MALHEUR WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 1

AS PERCENT OF 1948 - 1962 AVERAGE

Data from selected snow courses.
Measured about the first of each month.

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- Soil Moisture Station
- Precipitation Gage
- Radio Telemetry

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Columbia Basin (Nev.)	6650	2/28	0	0.0	8.1	- -
Cottonwood-Indian	4320	2/27	0	0.0	0.0	1.2 m
Crane Prairie	5375	2/28	16	6.7	7.6	9.4
Crow Camp	5500	2/27	0	0.0	0.9	- -
Disaster Peak (Nev.)	6500	2/27	12	3.4	12.2	14.6 h
Eldorado Pass	4600	2/29	0	0.0	3.0	3.0 h
Fawn Creek (Nev.)	7000	2/28	T	T	6.5	- -
Fish Creek	7900	3/2	38	13.0	20.4	- -
Flag Prairie	4750	2/27	0	0.0	4.5	- -
Fox Creek (Nev.)	6800	2/26	16	5.8	9.1	9.4 h
Fry Canyon (Nev.)	6700	2/29	0	0.0	6.9	7.8
Gold Creek (Nev.)	6600	2/29	0	0.0	4.6	6.1 h
Granite Peak (Nev.)	7800	2/29	34	11.0	15.2	10.9
Hyde Pasture (Ida.)	5800	2/27	0	0.0	5.7	4.9 h
Jack Creek, Lower (Nev.)	6800	c				
Jack Creek, Upper (Nev.)	7250	2/28	6	2.2	6.6	9.5 h
Jack Peak (Nev.)	8420	c				
Lake Creek	5120	2/28	16	5.7	8.5	10.5
Laurel Draw (Nev.)	6700	2/27	6	2.2	7.7	7.9 h
Logan Valley	5100	2/27	12	4.3	5.7	- -
Lookout Butte	5650	2/27	0	0.0	0.0	- -
Louse Canyon	6440	2/27	0	0.0	7.9	- -
Martin Creek (Nev.)	6700	2/29	16	5.5	12.9	8.9
Merritt Mountain (Nev.)	7000	b			7.8	- -
Midas (Nev.)	7200	2/28	0	0.0	3.2	4.2 h
Mud Flat (Ida.)	5500	2/26	7	1.9	5.9	4.7 h
Oregon Canyon	6950	2/27	T	T	8.9	- -
Quinn Ridge (Nev.)	6300	2/27	0	0.0	2.4	- -
Red Canyon (Ida.)	6500	2/27	0	0.0	5.7	- -
Rock Spring	5100	2/29	5	1.5	5.1	5.6
Rodeo Flat (Nev.)	6800	2/29	0	0.0	4.9	7.3
76 Creek (Nev.)	7100	2/26	20	7.0	9.6	11.5 h
Silver City (Ida.)	6400	2/27	20	6.7	15.2	13.8 h
Silvies	6900	3/3	4	2.4	12.4	- -
South Mountain #2 (Ida.)	6340	2/28	10	3.4	12.3	10.6
Stag Mountain (Nev.)	7800	2/28	8	2.9	6.1	- -
Stinking Water	4800	3/1	0	0.0	2.1	3.7 h
Succor Creek (Ida.)	6100	2/27	0	0.0	7.8	- -
Taylor Canyon (Nev.)	6200	2/27	0	0.0	6.5	4.6
Toe Jam (Nev.)	7700	2/28	14	5.0	10.0	- -
Tremewan Ranch (Nev.)	5700	2/29	0	0.0	3.0	1.4
Triangle (Ida.)	5150	2/27	0	0.0	T	0.7 h
Trout Creek	7800	2/27	12	4.3	9.9	- -
"V" Lake	6600	2/27	0	0.0	6.6	- -
Vaught Ranch (Ida.)	5950	2/27	0	0.0	3.0	- -
War Eagle (Ida.)	7700	b				

WATER SUPPLY OUTLOOK
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS
OREGON

as of

MARCH 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

GENERAL OUTLOOK

Spring and summer water supplies for farmers, ranchers and other water users in Baker, Union and Wallowa Counties will be seriously short in 1968 with extreme shortages expected for lands served directly by the Grande Ronde River. Streams in Wallowa County will provide near average water supplies and all lands served from reservoirs will have sufficient water this season.

PRECIPITATION

Winter precipitation, November through February, has been 86 percent of the average according to U. S. Weather Bureau. February alone has been 128 per cent of the 15-year average (1948-62).

SNOW COVER

Water content of the mountain snowpack is only 64 percent of the March first average. Snow cover in this corner of the State is better than in any other area although much below average.

SOIL MOISTURE

Watershed soils under the snowpack are now wet up to 77 percent of capacity. Moisture has penetrated less than 18 inches in most valley soils.

RESERVOIR STORAGE

Stored water in Unity Reservoir was 19,000 acre feet on March first compared with 12,700 acre feet a year ago. Wallowa Lake contained 25,500 acre feet compared with 10,500 acre feet the previous year. Thief Valley Reservoir is reported to be full and a minor amount of water is held by Mason Dam.

STREAMFLOW

The following forecasts of streamflow are compared with the 15-year average (1948-62) and are made with the important assumption that near average conditions of temperature and precipitation will prevail for the next five months:

Stream Station	Period	Thousands of Acre Ft.	Percent Average
Burnt R. near Hereford	Apr.-Sept.	25	61
Powder River nr Baker	Apr.-Sept.	48	72
Eagle Cr. abv Skull Cr.	Apr.-Sept.	140	77
Grande Ronde-La Grande	Apr.-Sept.	50	25
Catherine Cr. nr Union	Apr.-Sept.	50	68
Bear Cr. near Wallowa	Apr.-Sept.	54	75
Lostine R. nr Lostine	Apr.-Sept.	125	95
Hurricane Cr. nr Joseph	Apr.-Sept.	41	85
East Fk. Wallowa-Joseph	Apr.-Sept.	10.5	88
Imnaha R. at Imnaha	Apr.-Sept.	282	89

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Alder Slope	Average	Fair
Baker Valley	Fair	Poor
Big Creek	Fair	Poor
Clover Cr. (nr N. Powder)	Fair	Poor
Cove	Fair	Poor
Durkee	Fair	Poor
Eagle Valley	Average	Fair
Elgin	Fair	Poor
Enterprise-Joseph	Average	Average
Hereford-Bridgeport	Average	Average
Imnaha River	Average	Fair
La Grande-Island City	Fair	Poor
Lostine-Wallowa	Average	Fair
No. Powder River-Wolf Cr.	Fair	Poor
Pine Valley	Average	Fair
Powder River-Elk Creek	Fair	Poor
Summerville	Fair	Poor
Sumpter Valley	Fair	Poor
Union-Hot Lake	Fair	Poor
Unity	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) March 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Thief Valley	17.4	*b*		
Unity	25.2	19.0	12.7	9.4
Wallowa Lake	37.5	25.5	10.5	18.0

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of March 1, 1968

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
3305	Bear near Wallowa	54	April-Sept.	72	75
2730	Burnt near Hereford[d]	33	March-June	49	67
		25	April-Sept.	41	61
3200	Catherine near Union	50	April-Sept.	73	68
2882	Eagle Creek abv. Skull Creek	127	April-July	166	77
		140	April-Sept.	181	77
3190	Grande Ronde at La Grande	85	March-July	248	34
		50	April-Sept.	203	25
3295	Hurricane near Joseph	41	April-Sept.	48	85
2920	Imnaha at Imnaha	282	April-Sept.	318	89
3300	Lostine near Lostine	125	April-Sept.	131	95
2755	Powder near Baker	45	April-July	66	68
		48	April-Sept.	67	72
3250	Wallowa, East Fork near Joseph[d]	11.0	March-Sept.	12.7	87
		10.5	April-Sept.	12.0	88

SOIL MOISTURE

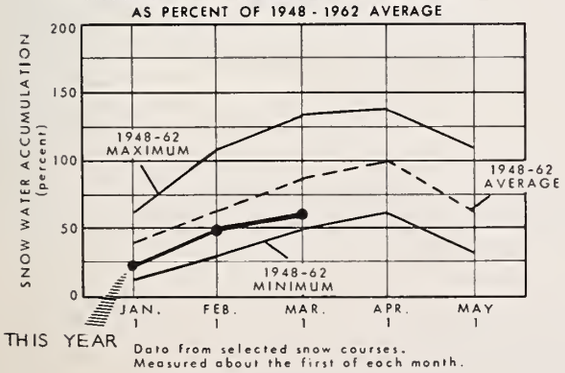
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION *d*	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mtn. Summit	5100	36	16.8	2/29	10.0	11.9	9.2
Dooley Mountain	5430	36	9.2	2/23	3.8	3.1	3.0
Emigrant Springs	3925	48	22.3	2/29	20.5	20.2	16.5
Ladd Summit	3730	48	18.9	2/23	10.2	11.6	9.8
Moss Springs	5850	42	25.8	2/26	16.3	- -	14.1
Tollgate	5070	48	23.6	2/28	21.1	18.8	17.9

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS

SNOW WATER ACCUMULATION IN AREA 2

AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station
- Aerial Snow Depth Gage
- Precipitation Gage

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Aneroid Lake #1	7480	3/2	86	32.0	35.8	32.4
Aneroid Lake #2	7300	3/2	70	26.6	32.4	29.2
Anthony Lake	7125	2/29	48	17.8	25.9	23.6
Bald Mountain[e] (Ore.)	6700	2/26	26	9.4	23.7	- -
Barney Creek	5950	2/28	14	4.7	7.6	7.5
Beaver Reservoir	5340	2/26	16	7.8	8.7	10.1
Big Sheep[e]	6200	2/26	58	20.9	23.9	- -
Blue Mountain Summit	5098	2/29	15	5.1	7.3	8.3
Bourne	5800	2/27	32	11.0	11.5	15.8
County Line	4800	2/29	1	0.5	4.9	7.0[h]
Dooley Mountain	5430	2/23	20	6.9	7.8	8.6
Eilertson Meadows	5400	2/26	23	8.4	10.1	10.8[h]
Eldorado Pass	4600	2/29	0	0.0	3.0	3.0[h]
Gold Center	5340	2/27	25	9.6	10.0	12.5
Goodrich Lake	6775	2/28	81	30.3	34.0	32.0[h]
Intake House	4930	2/26	31	10.2	10.0	- -
Little Alps	6200	2/29	24	8.8	13.0	- -
Little Antone	5000	2/29	10	3.7	5.9	- -
Lucky Strike	5050	2/23	17	5.2	9.9	11.8[h]
Meacham	4300	2/29	0	0.0	8.4	9.1
Mirror Lake[e]	8200	2/26	183	65.9	62.0	- -
Moss Springs	5850	2/26	34	13.0	22.6	21.9
Power Plant	3990	2/26	15	5.0	4.8	- -
Schneider Meadows	5400	2/27	62	23.8	27.7	29.2[h]
Schoolmarm	4775	2/29	1	0.3	4.5	5.9[h]
Standley[e]	7400	2/26	58	20.9	31.2	- -
Taylor Green	5740	2/26	30	10.8	16.0	- -
Tipton	5100	2/29	14	5.9	8.0	10.0[h]
Tollgate	5070	2/28	12	5.7	20.2	25.1
TV Ridge[e]	7000	2/26	36	13.0	19.8	- -

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS
OREGON

as of

MARCH 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Severe drought conditions are forecast for Umatilla, Morrow, Gilliam and Sherman Counties this spring and summer and farmers, ranchers and other water users can expect sufficient water supplies only where stored water is available and adequate. All other areas will experience a severe shortage of water.

PRECIPITATION

Winter precipitation, November through February, has been 82 percent of the average (1948-62) according to the U. S. Weather Bureau. February alone has been 112 percent of the 15-year average.

SNOW COVER

Water content of the mountain snowpack has decreased considerably because of rains and warm temperatures at all but the highest elevations and is now about 22 percent of the 15-year average. Only in 1963 was the snow situation worse than it is now.

SOIL MOISTURE

Watershed soils under the snowpack are now wet to 84 percent of capacity. Moisture has penetrated valley soils from 16 to 26 inches only this season.

RESERVOIR STORAGE

Water stored in Cold Springs Reservoir on March first was about 38,800 acre feet compared with 39,600 acre feet a year ago. With the Umatilla River forecast to flow about 153,000 acre feet--only 62 percent average--there will be a greatly reduced amount of water available for diversion in Maxwell Canal to supplement the water held in Cold Springs Reservoir. It may be less than the total water supply needed.

McKay Reservoir held only 31,500 acre feet on March first compared with 32,100 acre feet a year ago. Flow of McKay Creek is forecast at 17,000 acre feet for the March-July period or only 35 percent of the 15-year average. The reservoir water-level will not likely rise above a total of 45,000 acre feet this year which will be considerably below the amount usually needed.

STREAMFLOW

Flow of the North and South Forks of Walla Walla River is forecast at 48 per cent average and 67 percent average respectively. Water from these two streams will be far short of the amounts needed for usual irrigations.

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The following forecasts of streams are compared with the 15-year average (1948-62) and are made with the important assumption that near-average conditions of temperature and precipitation will prevail for the next five months:

Stream Station	Period	Thousands of Acre Ft.	Percent Average
Butter Creek	March-July	5.9	41
McKay Creek	March-July	17.0	35
Umatilla at Pendleton	March-Sept.	153.0	62
Walla Walla-North Fk.	March-Sept.	12.0	48
Walla Walla-South Fk.	March-Sept.	60.0	67

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Walla Walla River, No. Fk.	Poor	Poor
Walla Walla River, So. Fk.	Fair	Poor
Walla Walla River, Main	Fair	Poor
Walla Walla River, Little	Poor	Poor
Couse Creek	Poor	Poor
Dry Creek	Poor	Poor
Pine Creek	Poor	Poor
Umatilla River, Main	Fair	Poor
Wildhorse Creek	Poor	Poor
Umatilla R. (Cold Springs Reservoir)	Average	Fair
Umatilla R. (McKay Res.)	Fair	Poor
McKay Creek	Poor	Poor
Birch Creek	Poor	Poor
Butter Creek	Poor	Poor
Willow Creek	Poor	Poor
Rhea Creek	Poor	Poor
Rock Creek (John Day tributary)	Poor	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) March 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cold Springs	50.0	38.8	39.6	39.9
McKay	73.8	31.5	32.1	41.0

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of March 1, 1968

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
0320	Butter Creek near Pine City	5.9	March-July	14.5	41
0225	McKay near Pilot Rock	17.0	March-July	49	35
		9.6	April-Sept.	32	30
0200	Umatilla near Gibbon	60	March-Sept.	116	52
		43	April-Sept.	93	46
0210	Umatilla at Pendleton	153	March-Sept.	247	62
		96	April-Sept.	183	52
0110	Walla Walla, North Fork near Milton	12.0	March-Sept.	25	48
		7.3	April-Sept.	19.6	37
0100	Walla Walla, South Fork near Milton	60	March-Sept.	89	67
		48	April-Sept.	76	63

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Athena-Weston	1700	48	18.7	2/28	11.6	11.6	14.4
Battle Mtn. Summit	4340	48	13.8	2/27	12.7	13.8	11.8
Emigrant Springs	3925	48	22.3	2/29	20.5	20.2	16.5
Tollgate	5070	48	23.6	2/28	21.1	18.8	17.9

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

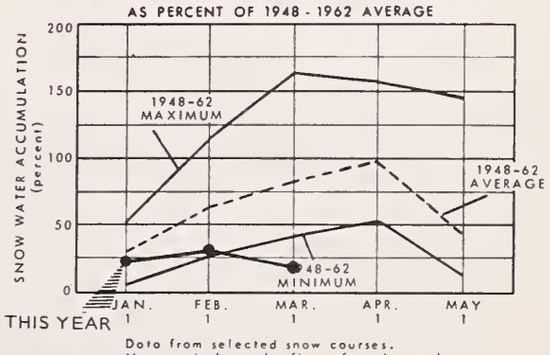
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station
- Precipitation Gage

SNOW WATER ACCUMULATION IN AREA 3

AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Arbuckle Mountain	5400	2/28	6	2.9	7.6	10.9[h]
Battle Mountain Summit	4340	2/27	0	0.0	1.6	2.4[m]
Blue Mountain Camp	4300	2/28	0	0.0	10.7	- -
Emigrant Springs	3925	2/29	0	0.0	3.0	6.2
Lucky Strike	5050	2/23	17	5.2	9.9	11.8[h]
Meacham	4300	2/29	0	0.0	8.4	9.1
Tollgate	5070	2/28	12	5.7[j]	20.2	25.1
Walla Walla Diversion	2400	3/1	0	0.0[j]	0.0	2.8[h]
Weston Mountain	2700	2/28	0	0.0	0.0	- -

WATER SUPPLY OUTLOOK
UPPER JOHN DAY WATERSHEDS
OREGON

as of

MARCH 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Severe drought conditions are forecast for Grant and Wheeler Counties for the spring and summer of 1968 and farmers, ranchers and other water users can expect severe shortages of water.

PRECIPITATION¶

Winter precipitation, November through February, has been only 68 percent of the average (1948-62) according to the U. S. Weather Bureau. February alone has been 75 percent of the 15-year average.

SNOW COVER

Water content of the mountain snowpack has decreased considerably because of rains and warm temperatures at all but the highest elevations and is now about 39 percent of the 15-year average. Only in 1963 was the snow situation worse than it is now.

SOIL MOISTURE

Watershed soils under the snowpack are now wet to 76 percent of capacity. In the valley soils, moisture has penetrated between 16 and 24 inches.

STREAMFLOW

The following forecasts of streamflow in John Day Basin are compared with the 15-year average (1948-62) and are made with the important assumption that near average conditions of temperature and precipitaion will prevail for the next five months:

Stream Station	Period	Thousands of Acre Ft.	Percent Average
John Day R.-Prairie City	March-July	38	68
John Day R.-Middle Fk.	March-July	107	70
Strawberry Cr. near Prairie City	March-July	8.2	77

Flow of small streams heading in low and medium elevations will taper off very early this summer and will provide an extremely short water supply.

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STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of March 1, 1968

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
0385	John Day at Prairie City	38	March-July	56	68
		35	April-Sept.	51	69
0440	John Day, Middle Fork at Ritter	107	March-July	153	70
		93	April-Sept.	131	71
0375	Strawberry near Prairie City	6.3	March-July	8.2	77
		6.9	April-Sept.	8.8	78

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Beech Creek	Fair	Poor
Beech Creek-Fox-Long Cr.	Fair	Poor
Bridge-Mountain Creeks	Poor	Poor
Camas Creek	Fair	Poor
Cherry Creek	Poor	Poor
Indian-Pine Creeks	Fair	Poor
John Day River, Main Fork	Fair	Poor
John Day River, Mid. Fork	Fair	Poor
John Day River, N. Fork	Fair	Poor
John Day River, So. Fork	Fair	Poor
Monument-Kimberly	Fair	Poor
Strawberry Creek	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) March 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE

SOIL MOISTURE

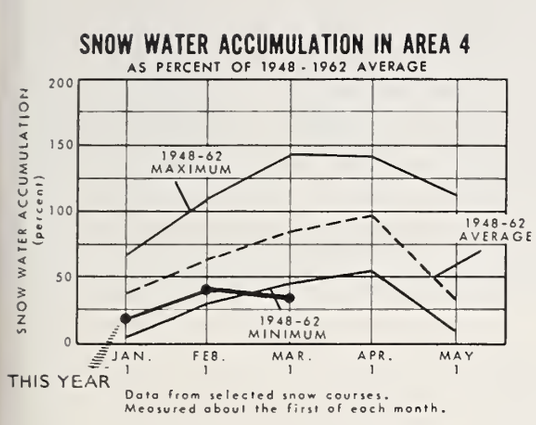
STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	SOIL MOISTURE (Inches) THIS YEAR	SOIL MOISTURE (Inches) LAST YEAR	SOIL MOISTURE (Inches) 2 YEARS AGO
Battle Mtn. Summit	4340	48	13.8	2/27	12.7	13.8	11.8
Beech Creek	4800	48	21.3	2/26	14.8	17.0	9.4
Blue Mountain Springs	5900	42	16.9	2/28	11.3	10.8	7.0
Blue Mountain Summit	5100	36	16.8	2/29	10.0	11.9	9.2
Derr	5670	24	9.0	2/28	8.9	8.0	6.9
Marks Creek	4540	36	14.1	2/29	12.2	13.7	11.6
Snow Mountain	6300	48	16.7	2/28	11.5	14.8	12.2
Starr Ridge	5150	36	10.6	2/28	8.8	10.4	7.9
Williams Ranch	4500	42	17.9	[b]			

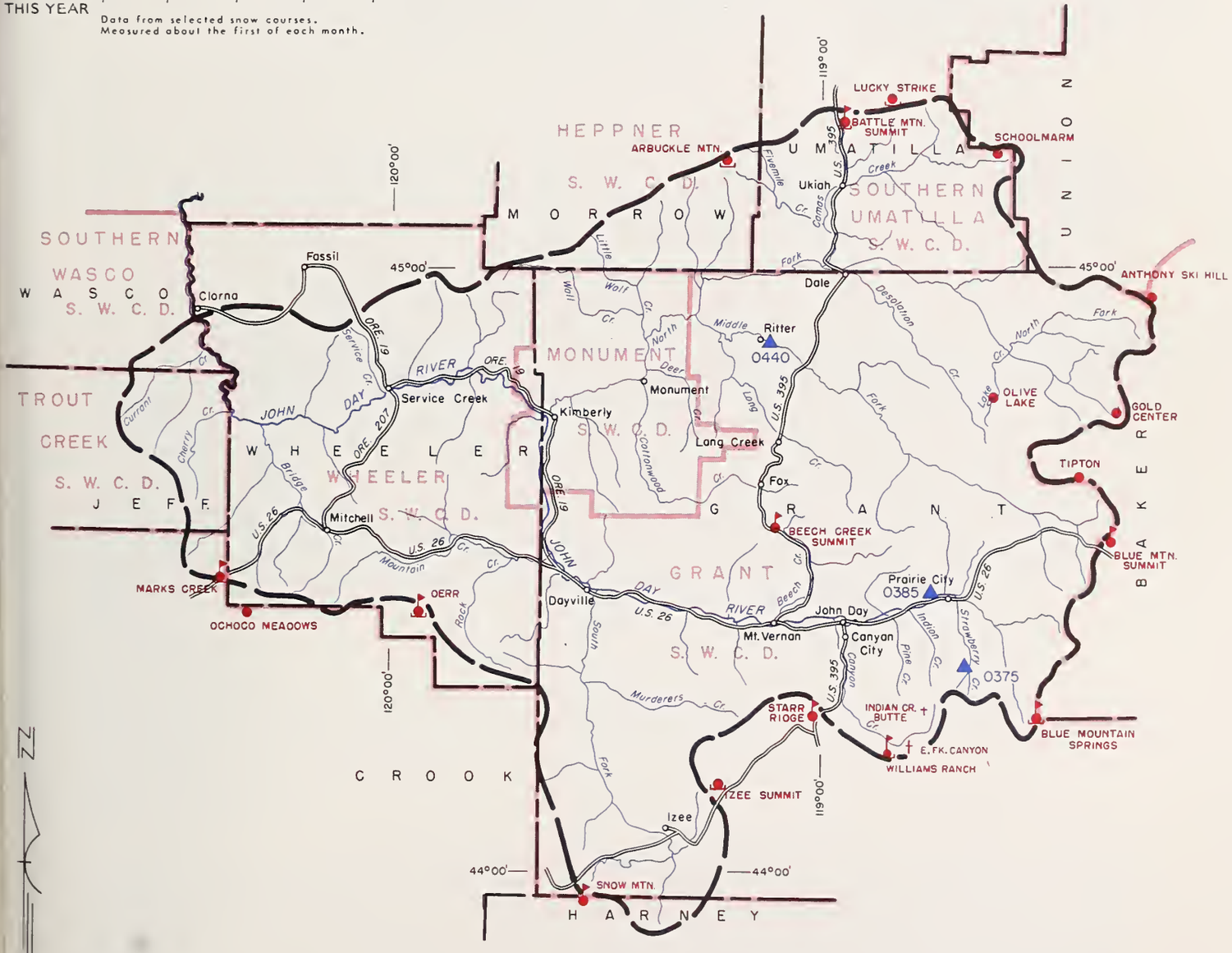
SNOW

SNOW COURSE NAME	SNOW COURSE ELEVATION	CURRENT INFORMATION DATE OF SURVEY	CURRENT INFORMATION SNOW DEPTH (Inches)	CURRENT INFORMATION WATER CONTENT (Inches)	PAST RECORD WATER CONTENT (Inches) LAST YEAR	PAST RECORD WATER CONTENT (Inches) 1948-62 AVERAGE
Anthony Lake	7125	2/29	48	17.8	25.9	23.6
Arbuckle Mountain	5400	2/28	6	2.9	7.6	10.9[h]
Battle Mountain Summit	4340	2/27	0	0.0	1.6	2.4[m]
Beech Creek Summit	4800	2/26	0	0.0	3.7	5.6
Blue Mountain Springs	5900	2/28	28	9.7	11.6	15.2
Blue Mountain Summit	5098	2/29	15	5.1	7.3	8.3
Derr	5670	2/28	5	2.0	8.2	9.6[h]
East Fork Canyon[e]	5700	2/28	0	0.0	8.1	- -
Gold Center	5340	2/27	25	9.6	10.0	12.5
Indian Creek Butte[e]	6550	2/28	36	13.0	23.4	- -
Izee Summit	5293	2/29	7	2.8	6.7	8.0
Lucky Strike	5050	2/23	17	5.2	9.9	11.8[h]
Marks Creek	4540	2/29	0	0.0	3.3	3.7
Ochoco Meadows	5200	2/28	7	2.2	8.9	10.1
Olive Lake	6000	Discontinued				
Schoolmarm	4775	2/29	1	0.3	4.5	5.9[h]
Snow Mountain	6300	2/28	19	7.4	12.6	- -
Starr Ridge	5150	2/29	3	1.2	4.7	5.6
Tipton	5100	2/29	14	5.9	8.0	10.0[h]
Williams Ranch	4500	2/28	0	0.0	0.0	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

UPPER JOHN DAY WATERSHEDS





LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- ⚑ Soil Moisture Station
- † Aeriol Snow Depth Gage
- ⌴ Precipitation Gage

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UPPER DESCHUTES, CROOKED WATERSHEDS
OREGON

as of

MARCH 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Severe drought conditions are forecast for Deschutes, Crook and Jefferson Counties this spring and summer and farmers, ranchers and other water users can expect sufficient water supplies only where stored water is available and adequate in supply. All other areas will experience a severe shortage of water.

PRECIPITATION

Winter precipitation, November through February, has been only 66 percent of the average (1948-62). February alone has been 105 percent of the 15-year average.

SNOW COVER

Water content of the mountain snowpack has decreased because of warm February temperatures and rainfall at all but the highest elevations and is now about 21 percent of the 15-year average on the Crooked and 49 percent average on the Deschutes watersheds. Snow has almost completely disappeared from the Crooked River watershed.

SOIL MOISTURE

Moisture in upper watershed soils under the snowpack in Crook County has increased from 64 to 82 percent of capacity as a result of the warm temperatures and snow melt in February.

RESERVOIR STORAGE

Water stored in Prineville Reservoir is 112,900 acre feet on March first compared with 96,000 a.f. last year. Ochoco Reservoir held 17,400 acre feet compared with 23,500 a.f. a year ago. These reservoirs will furnish adequate supplies to the lands they serve. Crescent Lake held 46,100 acre feet on March 1 compared with 54,300 last year. Crane Prairie contained a meager 33,200 acre feet compared with 41,100 a year ago and Wickiup held only 148,100 acre feet as compared with last year's 155,000 acre feet.

There is a strong possibility that natural flow of the Deschutes will drop low enough to eliminate the North Unit's diversion and possibly a portion of Central Oregon Irrigation District's late water rights.

continued on next page

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STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of March 1, 1968

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
0535	Crane Prairie Reservoir total Inflow	67	March-July	109	61
		89	April-Sept.	143	62
0600	Crescent at Crescent Lake	13.6	March-July	30	45
		15.3	April-Sept.	33	46
0795	Crooked near Post above Prineville Reservoir	55	March-July	169	32
		56	April-Sept.	125	45
0645	Deschutes at Benham Falls	267	April-July	417	64
		408	April-Sept.	631	65
0500	Deschutes below Snow Creek	51	March-Sept.	82	62
		46	April-Sept.	75	61
0630	Deschutes, Little near Lapine	60	March-July	115	52
		60	April-Sept.	113	53
0848	Ochoco Reservoir net Inflow	15.0	March-July	42	36
		8.0	April-Sept.	32	25
0555	Odell near Crescent	23	April-Sept.	34	68
0750	Squaw near Sisters	40	April-Sept.	56	71
0730	Tumalo near Bend	39	April-Sept.	54	72

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

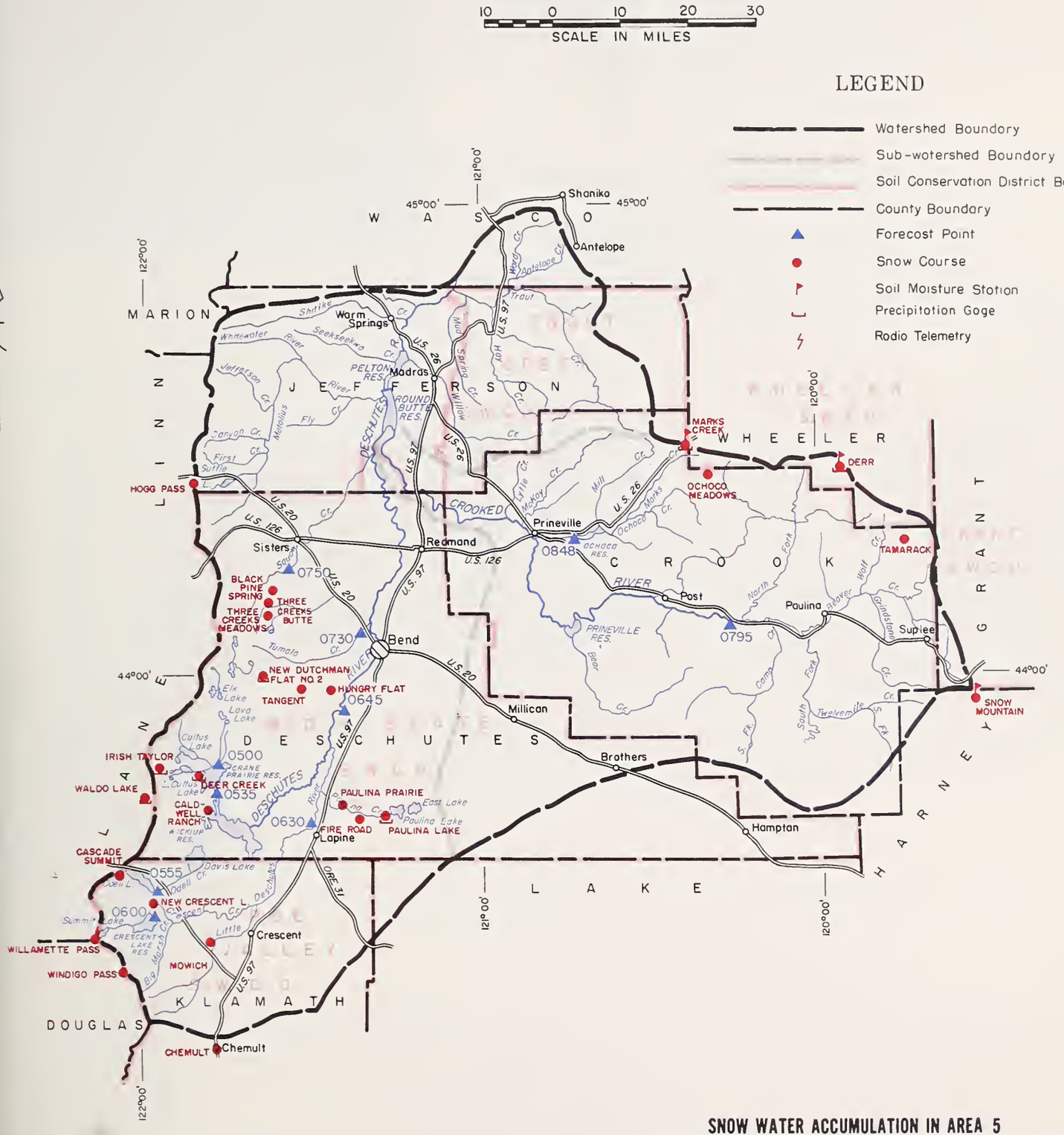
STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Arnold Irrigation District	Average	Fair
Bear Creek	Poor	Poor
Beaver Creek	Poor	Poor
Camp Creek	Poor	Poor
Central Ore. Irrig. Dist.	Average	Fair
Crooked River	Poor	Poor
Deschutes River	Fair	Poor
Hay-Trout Creeks	Poor	Poor
Lone Pine Irrig. Dist.	Average	Fair
Mill Creek	Poor	Poor
North Unit Irrig. Dist.	Fair	Poor
Ochoco Creek	Poor	Poor
Sisters Irrigation Dist.	Fair	Poor
Snow Creek Irrig. Dist.	Fair	Fair
Squaw Creek Irrig. Dist	Average	Fair
Swalley Ditch	Average	Average
Tumalo Project	Average	Fair
Walker Basin Irrig. Dist.	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) March 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Crane Prairie	55.3	33.2	41.1	45.3
Crescent Lake	86.0	46.1	54.3	45.7
Ochoco	47.5	17.4	23.5	26.6
Prineville	153.0	112.9	96.1	- -
Wickiup	200.0	148.1	155.0	176.9

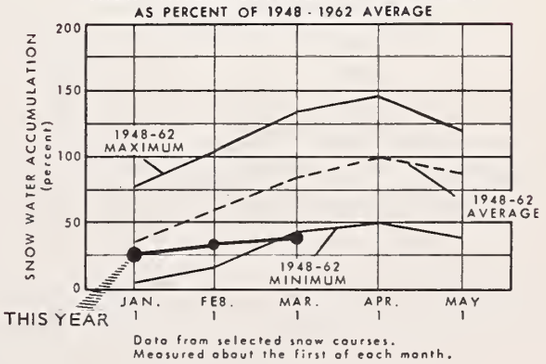
(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

UPPER DESCHUTES, CROOKED WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 5

AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

SOIL MOISTURE

STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	SOIL MOISTURE (Inches) THIS YEAR	SOIL MOISTURE (Inches) LAST YEAR	SOIL MOISTURE (Inches) 2 YEARS AGO
Derr	5670	24	9.0	2/28	8.9	8.0	6.9
Marks Creek	4540	36	14.1	2/29	12.2	13.7	11.6
Snow Mountain	6300	48	16.7	2/28	11.5	14.8	12.2

SNOW

SNOW COURSE NAME	ELEVATION	CURRENT INFORMATION DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	PAST RECORD WATER CONTENT (Inches) LAST YEAR	1948-62 AVERAGE
Black Pine Spring	4600	3/1	0	0.0	0.8	5.0 *h*
Caldwell Ranch	4400	2/28	8	3.0	9.7	- -
Cascade Summit	4880	3/1	36	13.1	24.0	28.9
Chemult	4760	2/26	17	6.0	9.8	11.4
Deer Creek	4554	2/28	26	9.3	15.2	- -
Derr	5670	2/28	5	2.0	8.2	9.6 *h*
Fire Road	5050	2/29	0	0.0	6.0	6.5 *h*
Hogg Pass	4755	3/1	46	18.9	33.3	39.4
Hungry Flat	4400	2/28	0	0.0	5.9	6.3 *h*
Irish Taylor	5500	2/28	39	15.9	31.6	- -
Marks Creek	4540	2/29	0	0.0	3.3	3.7
Mowich	4700	2/26	10	4.0	7.0	5.4 *h*
New Crescent Lake	4800	2/26	18	6.5	13.1	15.7 *h*
New Dutchman Flat #2	6400	2/28	52	23.4	45.5	46.8
Ochoco Meadows	5200	2/28	7	2.2	8.9	10.1
Paulina Lake	6330	2/29	20	7.5	18.0	18.7 *h*
Paulina Prairie	4285	2/29	0	0.0	1.6	1.1 *h*
Snow Mountain	6300	2/28	19	7.4	12.6	- -
Tamarack	4800	2/27	2	0.7	4.4	5.8
Tangent	5400	2/28	33	13.4	18.9	22.1 *h*
Three Creeks Butte	5200	3/1	6	2.8	8.1	11.5 *h*
Three Creeks Meadows	5650	3/1	16	7.3	13.1	19.9
Waldo Lake	5500	3/1	39	14.3	25.2	- -
Willamette Pass	5600	2/27	51	21.2	34.7	37.7 *h*
Windigo Pass	5800	2/26	50	20.5	32.8	39.3 *h*

"The Conservation of Water begins with the Snow Survey"

Area 6

WATER SUPPLY OUTLOOK
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS
OREGON

as of

MARCH 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Serious drought conditions are forecast for Wasco and Hood River Counties this spring and summer and farmers, orchardists and other water users can expect severe water shortages with local streamflow forecasts 35 to 55 percent below the usual amounts.

PRECIPITATION

Winter precipitation, November through February, has been only 70 percent of the average according to the U. S. Weather Bureau. February alone has been 116 percent of the 15-year average (1948-62).

SNOW COVER

Water content of the mountain snowpack has decreased because of rains and warm temperatures at all but the highest elevations and is now about 34 percent of the March first average. The snow situation is very similar to the record-low conditions on this date in 1963.

SOIL MOISTURE

Soil moisture is now at excellent levels having increased with the unseasonable snow-melt and rainfall in late February.

STREAMFLOW

The following forecasts of Hood River-Wasco County streamflow are compared with the 15-year average (1948-62) and are made with the important assumption that near average conditions of temperature and precipitation will prevail for the next five months:

Stream Station		Thousands of Acre Ft.	Percent Average
Hood R. near Hood River	Apr.-Sept.	239	63
Hood R., West Fork	Apr.-Sept.	114	64
White R. below Tygh V.	Apr.-Sept.	80	45

Flow of Mill Creek, the Mile Creeks and small tributaries of Hood and White Rivers will barely provide fair water supplies in the spring season and practically no water in the late season.

It is too late in the winter season to expect that additional storms can take up the slack in water supply but it is possible to improve the situation considerably.

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Aldridge Ditch (Tony Creek)	Poor	Poor
Badger Creek	Fair	Poor
Dee Irrigation District	Fair	Poor
East Fork Irrig. Dist.	Fair	Poor
Farmers Irrigation Dist.	Fair	Poor
Hood River Irrig. Dist.	Fair	Poor
Juniper Flat	Poor	Poor
Middle Fork Irrig. Dist.	Fair	Poor
Mile Creeks	Poor	Poor
Mill Creek	Poor	Poor
Mount Hood Irrig. Dist.	Fair	Poor
Rock-Gate-Threemile Crs.	Poor	Poor
Tygh Creek	Poor	Poor
White River	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) March 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Clear Lake	11.9	2.3	2.3	- -

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of March 1, 1968

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
1210	Hood River near Hood River[d]	196	April-July	322	61
		239	April-Sept.	381	63
1185	Hood, West Fork near Dee	102	April-July	155	66
		114	April-Sept.	179	64
1015	White below Tygh Valley	63	April-July	158	40
		80	April-Sept.	176	45

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1948-62 AVERAGE
Brooks Meadows	4300	2/29	0	0.0	9.8	- -
Clear Lake	3500	2/28	0	0.0	5.2	11.9
Clear Lake (Experimental)	3500	2/28	T	T	11.6	21.1[h]
Cooper Spur	3490	3/1	0	0.0	6.7	- -
Greenpoint Reservoir	3400	2/24	16	6.1	10.4	15.1[h]
Knebal Springs	3850	2/29	0	0.0	4.6	- -
Lambert Point	7000	c				
Parkdale	1770	c				
Phlox Point	5400	3/1	43	20.1	55.3	57.1
Red Hill	4400	2/25	21	9.8	28.4	40.4
Still Creek	3670	3/1	16	6.4	16.8	23.0
Switchback	3255	3/1	0	0.0	5.8	- -
Tilly Jane	6000	2/17	44	16.3	32.8	38.7
Ulrich Ranch Junction	3350	2/29	0	0.0	0.0	- -
Umbrella Falls	5400	2/29	72	30.2	56.0	- -
Upper Valley	2530	c				

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

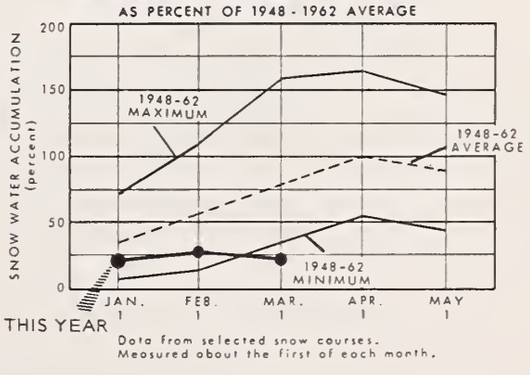
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- † Aeriol Snow Depth Gage
- ⚑ Soil Moisture Station
- ⊔ Precipitation Gage
- ⚲ Temperature Gage
- ϟ Radio Telemetry

SNOW WATER ACCUMULATION IN AREA 6

AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

Area 7

WATER SUPPLY OUTLOOK
LOWER COLUMBIA WATERSHEDS
OREGON

as of
MARCH 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Streamflow will be less than average on practically all Columbia Basin streams in 1968. An extreme deficiency in snow melt streamflow is in prospect for all of Oregon, the southern half of Washington and for Southwestern Idaho. In the upper basin areas and on most Snake River tributaries, streamflow and carryover storage will provide an adequate water supply. Storage is well above normal on the Yakima in Washington.

With a declining mountain snowpack in early season, there will be extensive water shortages for irrigated areas of Oregon without storage or with inadequate storage.

SNOW COVER

Snow cover is near average in the Canadian section of the basin and only slightly less than average on tributaries originating near the Continental Divide in Montana and Idaho. At high elevations in the northern Washington Cascades, snowfall has been near average. For the southern half of Washington, all of Oregon, southwestern Idaho and northern Nevada, the mountain snowpack is extremely deficient and remains only at higher elevations.

SOIL MOISTURE

Even with melting snow at medium elevations, soil moisture is near average. Rainfall in the western half of the basin has been deficient and only near average in Idaho and Montana.

STREAMFLOW

Flow of the Columbia River at The Dalles, Oregon, as reported by the U. S. Geological Survey, has been slightly below average for the fall months. The record by months for the 1968 water year is as follows:

Month	Percent of Average Discharge (1948-62)
October	96 (Adjusted for storage)
November	99 " " "
December	88 " " "
January	96 " " "
February	129 " " "

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STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of March 1, 1968

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
1057	Columbia at The Dalles	66,850	April-June	74,100	90
		95,650	April-Sept.	108,500	88

HISTORICAL DATA (Columbia River at The Dalles)

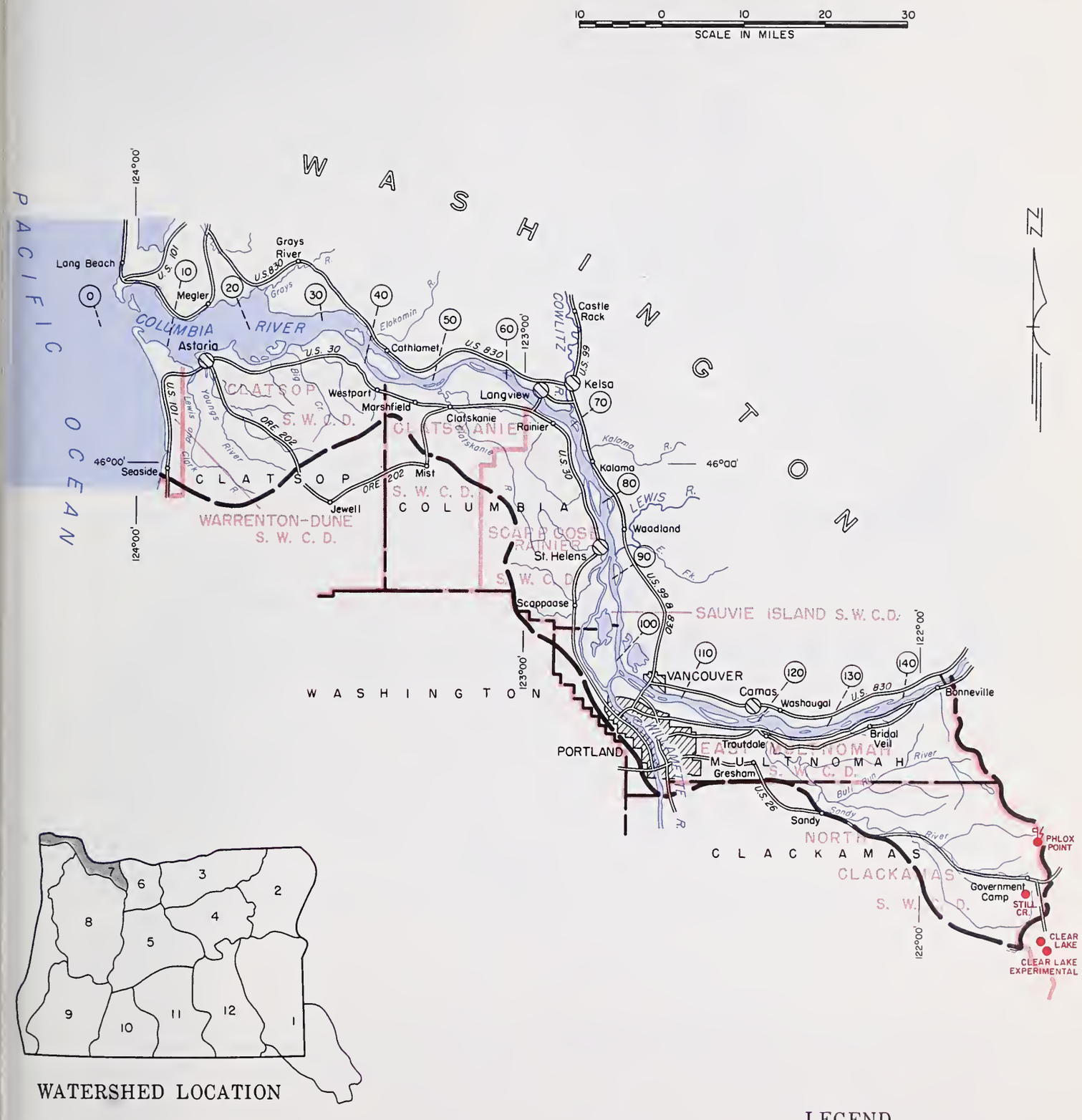
YEAR	STREAMFLOW[d] (1,000 A.F.) APR. — SEPT.	APR. — JUNE	MAY — JUNE	PEAK (1,000 c.f.s)	DATE
1943	115,000	75,300	52,400	541	June 21
1944	61,900	39,200	32,100	326	June 19
1945	81,600	54,600	47,300	505	June 8
1946	108,100	75,400	59,600	581	May 30
1947	100,300	70,000	56,800	536	May 11
1948	130,500	94,600	81,900	999	May 31
1949	95,700	71,400	56,000	622	May 18
1950	120,400	74,700	61,200	744	June 25
1951	113,000	75,600	59,100	597	May 26
1952	107,700	77,500	57,300	557	May 28
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23
1960	97,000	64,000	48,000	442	June 6
1961	101,400	74,400	64,000	699	June 8
1962	94,600	64,100	49,200	460	June 5
1948-62 Avg.	108,500	74,100	60,200	633	
1963	87,000	56,300	46,200	437	June 18
1964	109,020	70,739	61,313	662	June 18

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s)	DRAINAGE DISTRICT PUMPHOUSE SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES 118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.

LOWER COLUMBIA WATERSHEDS



WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- (50) River Miles
- Snow Course
- Temperature
- Radio Telemetry

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
WILLAMETTE WATERSHEDS
OREGON

as of

MARCH 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Late season shortages in water supplies are forecast for most irrigated lands of the Willamette Valley in 1968 except where adequate amounts of stored water or ground water are available.

PRECIPITATION

Winter precipitation, November through February, has been 76 percent of the 15-year average (1948-62). February alone has been 113 percent of the monthly average.

SNOW COVER

Water content of the mountain snowpack has decreased from 65 to 43 percent of the March first average because of warm temperatures and rainfall in February.

SOIL MOISTURE

Moisture in all soils has increased to a favorable amount as a result of February's warm rains.

RESERVOIR STORAGE

Willamette Basin Reservoirs serve multiple purposes and are currently held at medium storage levels to contain any unusually heavy flood waters that may develop.

STREAMFLOW

Forecasts of expected April through September streamflow are as follows and are made assuming near average conditions of temperature and precipitation will prevail int the next five months:

Stream Station	Thousands of Acre Feet	Percent of Average
Clackamas R. at Estacada	710	80
North Santiam at Mehama	780	79
South Santiam at Waterloo	507	75
Middle Fk. Willamette	702	72
Row R. near Dorena	86	77
Willamette at Salem	4000	72

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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Calapooya	Fair	Poor
Clackamas	Average	Fair
McKenzie	Average	Fair
Molalla	Fair	Poor
Santiam, North	Average	Fair
Santiam, South	Average	Fair
Willamette, Coast Fork	Average	Fair
Willamette, Middle Fork	Average	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.) March 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cottage Grove	30.0*	10.5	7.5	9.6
Cougar	155.2*	73.1	40.2	- -
Detroit	299.9*	194.2	91.3	97.3
Dorena	70.5*	25.7	18.5	21.1
Fall Creek	115.0*	54.3	44.5	- -
Fern Ridge	94.2*	53.6	33.3	37.2
Foster	30.0*	9.4	- -	- -
Green Peter	270.0*	141.2	- -	- -
Hills Creek	200.0*	107.4	58.7	- -
Lookout Point	337.2*	140.2	97.6	101.9
Timothy Lake	61.7	59.4	54.5	43.1

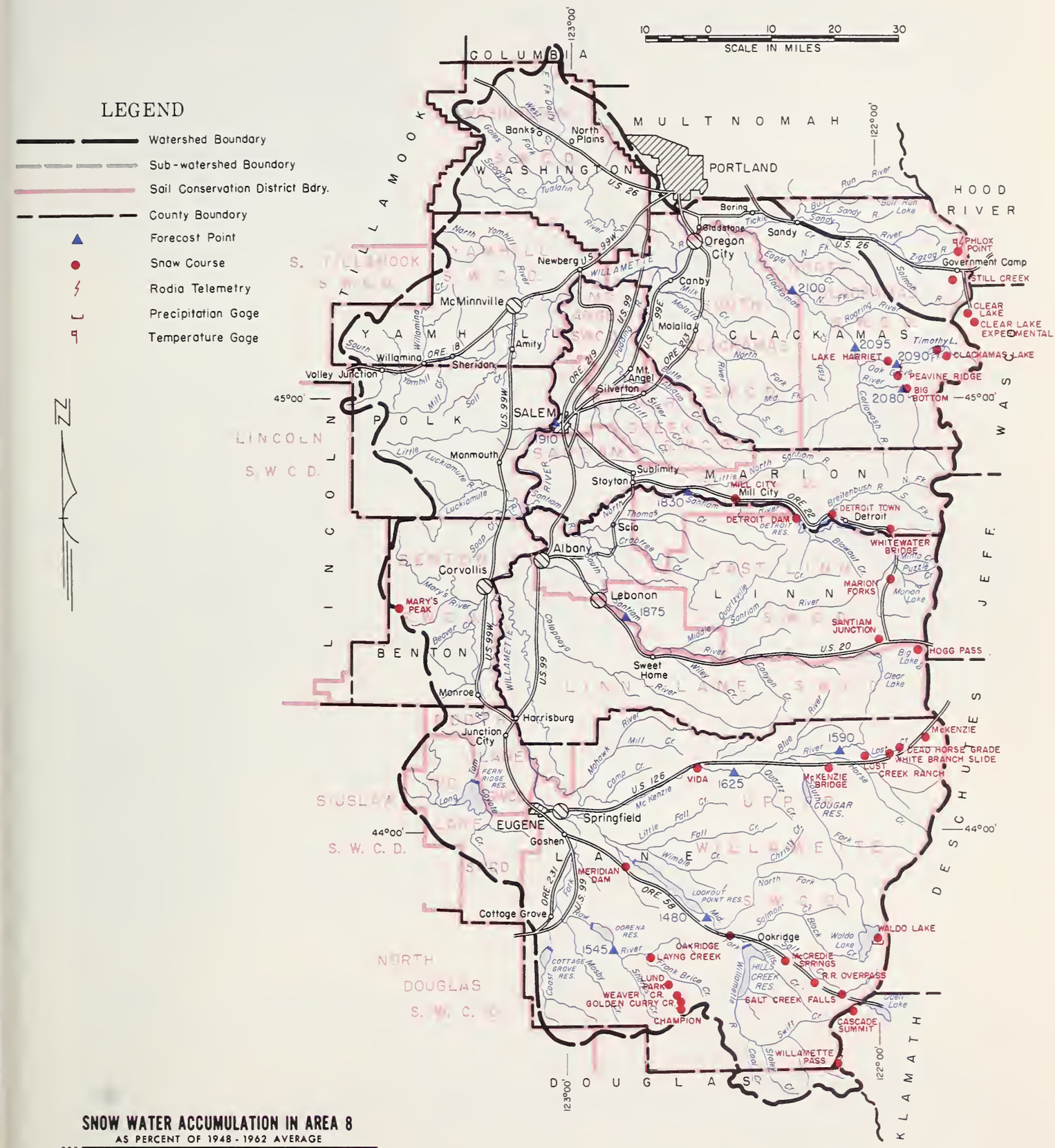
*Multiple purpose reservoir--space reserved primarily for flood runoff.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of March 1, 1968

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
2080	Clackamas at Big Bottom	110	April-July	150	73
		140	April-Sept.	184	76
2100	Clackamas at Estacada	605	April-July	770	78
		710	April-Sept.	890	80
2095	Clackamas above Three Lynx	426	April-July	584	73
		515	April-Sept.	683	75
1590	McKenzie at McKenzie Bridge	342	April-July	502	68
		460	April-Sept.	658	70
1625	McKenzie near Vida	845	April-July	1144	74
		1052	April-Sept.	1392	76
2090	Oak Grove Fork above Power Intake	106	April-July	147	72
		140	April-Sept.	190	74
1545	Row near Dorena	81	April-July	108	75
		86	April-Sept.	112	77
1830	Santiam, North at Mehama[d]	684	April-July	884	77
		780	April-Sept.	991	79
1875	Santiam, South at Waterloo	471	April-July	637	74
		507	April-Sept.	675	75
1840	Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge	604	April-July	863	70
		702	April-Sept.	968	72
1910	Willamette at Salem[d]	3450	April-July	5040	68
		4000	April-Sept.	5566	72

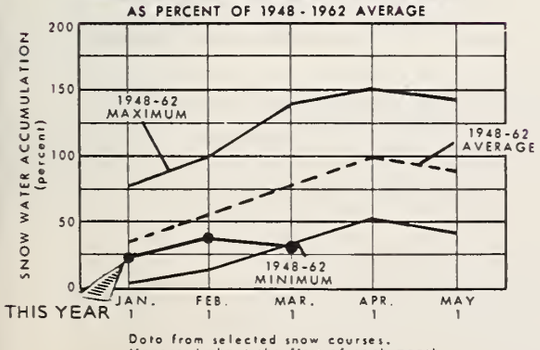
(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

WILLAMETTE WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 8

AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month

SNOW

SNOW COURSE NAME	ELEVATION	CURRENT INFORMATION: DATE OF SURVEY	CURRENT INFORMATION: SNOW DEPTH (Inches)	CURRENT INFORMATION: WATER CONTENT (Inches)	PAST RECORD: WATER CONTENT (Inches) LAST YEAR	PAST RECORD: WATER CONTENT (Inches) 1948-62 AVERAGE
Big Bottom	2118					
Cascade Summit	4880	3/1	36	13.1	24.0	28.9
Champion	4500	2/29	18	8.2	23.8	24.7
Clackamas Lake	3400	2/26	13	4.4	7.5	12.7
Clear Lake	3500	2/28	0	0.0	5.2	11.9
Clear Lake (Experimental)	3500	2/28	T	T	11.6	21.1 h
Dead Horse Grade	3800	2/27	9	3.3	17.3	19.3 h
Detroit Town	1610	3/1	0	0.0	0.0	1.8 h
Detroit Dam	1580	3/1	0	0.0	0.0	0.7 h
Golden Curry Creek	3136	2/29	0	0.0	2.2	5.9 h
Hogg Pass	4755	3/1	46	18.9	33.3	39.4
Lake Harriet	2045					
Layng Creek	1200	2/29	0	0.0	0.0	0.0 m
Lost Creek Ranch	1956	2/27	0	0.0	0.0	3.0 h
Lund Park	1740	2/29	0	0.0	0.0	1.0 h
Marion Forks	2730	3/1	20	8.0	11.7	14.5
Marys Peak	3620	3/1	1	0.8	- -	7.0 m
McCredie Springs	2120	3/1	0	0.0	0.0	0.7 h
McKenzie	4800	2/27	44	21.5	33.0	41.6
McKenzie Bridge	1372	2/27	0	0.0	0.0	1.2 h
Meridian Dam	750	3/1	0	0.0	0.0	0.0 h
Mill City	826	3/1	0	0.0	0.0	0.0 m
Oakridge	1310	3/1	0	0.0	0.0	T h
Peavine Ridge	3500	2/29	-	7.6	- -	17.4 h
Phlox Point	5400	3/1	43	20.1	55.3	57.1
Railroad Overpass	2750	3/1	0	0.0	0.0	3.7 h
Salt Creek Falls	4000	3/1	15	5.7	15.3	15.5 h
Santiam Junction	3990	3/1	18	7.2	19.4	23.4
Still Creek	3670	3/1	16	6.4	16.8	23.0
Timothy Lake	3295					
Vida	800	2/27	0	0.0	0.0	0.0 h
Waldo Lake	5500	3/1	39	14.3	25.2	- -
Weaver Creek	2440	2/29	0	0.0	T	2.0 h
White Branch Slide	2800	2/27	0	0.0	6.9	6.4 h
Whitewater Bridge	2175	3/1	0	0.0	0.0	6.1 h
Willamette Pass	5600	2/27	51	21.2	34.7	37.7 h
RADIO REPORT BY AUTOMATIC SNOW-MEASURING STATIONS						
			Time			
Peavine Ridge	3500	2/29	0801	6.6	- -	- -
Phlox Point	5400	3/1	0830	25.0	57.9	- -

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
ROGUE, UMPQUA, WATERSHEDS
OREGON

as of

MARCH 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Most farmers, orchardists and other water users in the Rogue and Umpqua Basins can expect water supplies to be far below average this coming spring and summer. Users with access to stored water will probably "get by", while those depending on direct diversion, especially from lower elevation streams, will experience serious shortages.

SNOW COVER

The snow cover over the Rogue and Umpqua watersheds has been further reduced from last month's below average conditions. The "pack" is now only 56% of the 1948-62 average, with conditions slightly better on the Rogue than the Umpqua. The unusual decrease in water content at many snow courses in the area was due to high temperatures combined with rainfall during February.

PRECIPITATION

February precipitation was 94% of average, however, the winter's total--November through February--is only 77%, according to the U. S. Weather Bureau.

SOIL MOISTURE

Soil moisture conditions have improved considerably because of rainfall and snowmelt and are now "primed." Any rainfall during the next month should then directly benefit streamflow.

RESERVOIR STORAGE

Storage in Fish Lake is currently 3,900 acre feet or 72% of average, while Fourmile is holding 3,000 acre feet or 34% of average. Shortages are a definite possibility for lands served from these sources.

Howard Prairie March 1 contents were 39,800 acre feet or 95% of average and Hyatt Prairie had 9,900 acre feet or 122% of average on this same date. Emigrant Lake storage was 25,600 or about 90% of its usual contents on March 1.

STREAMFLOW

The North Umpqua near Toketee Falls should produce 40,000 acre feet or 75% of its average for the six months beginning in April.

Report prepared by
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PORTLAND, OREGON 97205

The Rogue at Raygold is forecast at 750,000 acre feet or 75% of average for April-September. Grants Pass Irrigation District will probably go on canal alternation about August 15th this year. Inflow to Hyatt and Fourmile Lakes for the same period is forecast at 2,900 and 3,300 acre feet respectively.

Little Butte, North Fork at Fish Lake will run 11,000 acre feet or 69 percent while the South Fork near Lake Creek is forecast at 23,000 acre feet or 60%. The flow of the latter stream will drop to 100 cfs by May 17 this year.

The Applegate near Copper is forecast at 120,000 or 84 percent and the Illinois near Kerby 166,000 or 78% for the April-September period.

These forecasts assume average temperatures and precipitation will occur from now to the end of the forecast period.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Althouse Creek	Fair	Poor
Applegate River, Big	Average	Fair
Applegate River, Little	Average	Average
Ashland Creek	Average	Average
Butte Creek, Big	Average	Fair
Butte Creek, Little	Average	Fair
Cow Creek	Fair	Poor
Deer Creek	Fair	Poor
Elk Creek	Average	Fair
Emigrant Creek (abv. Res.)	Fair	Poor
Evans Creek	Fair	Poor
Gold Hill Irrigation Dist.	Average	Fair
Grants Pass Irrig. Dist.	Average	Fair
Grave Creek	Fair	Poor
Illinois River, East Fork	Average	Fair
Illinois River, West Fork	Average	Fair
Jump-off-Joe Creek	Fair	Poor
Neil Creek	Average	Fair
Red Blanket Creek	Average	Fair
Rogue River	Average	Fair
Sucker Creek	Average	Fair
Table Rock Irrig. Dist.	Average	Fair
Thompson Creek	Average	Fair
Wagner Creek	Average	Fair
Williams Creek	Average	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.) March 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Emigrant Gap	39.0	25.6	33.7	28.3*
Fish Lake	7.8	3.9	4.1	5.4
Fourmile Lake	16.1	3.0	5.1	8.9
Howard Prairie	60.0	39.8	33.6	- -
Hyatt Prairie	16.1	9.9	11.3	8.1

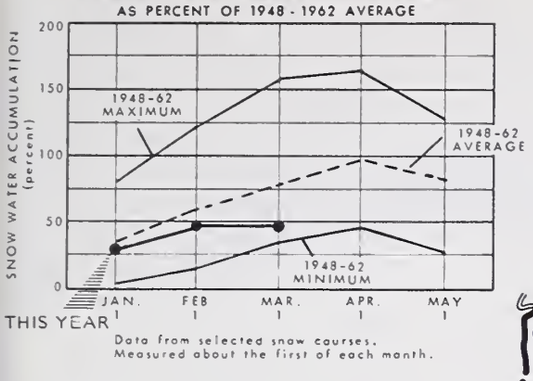
*Average for years of record after reconstruction.

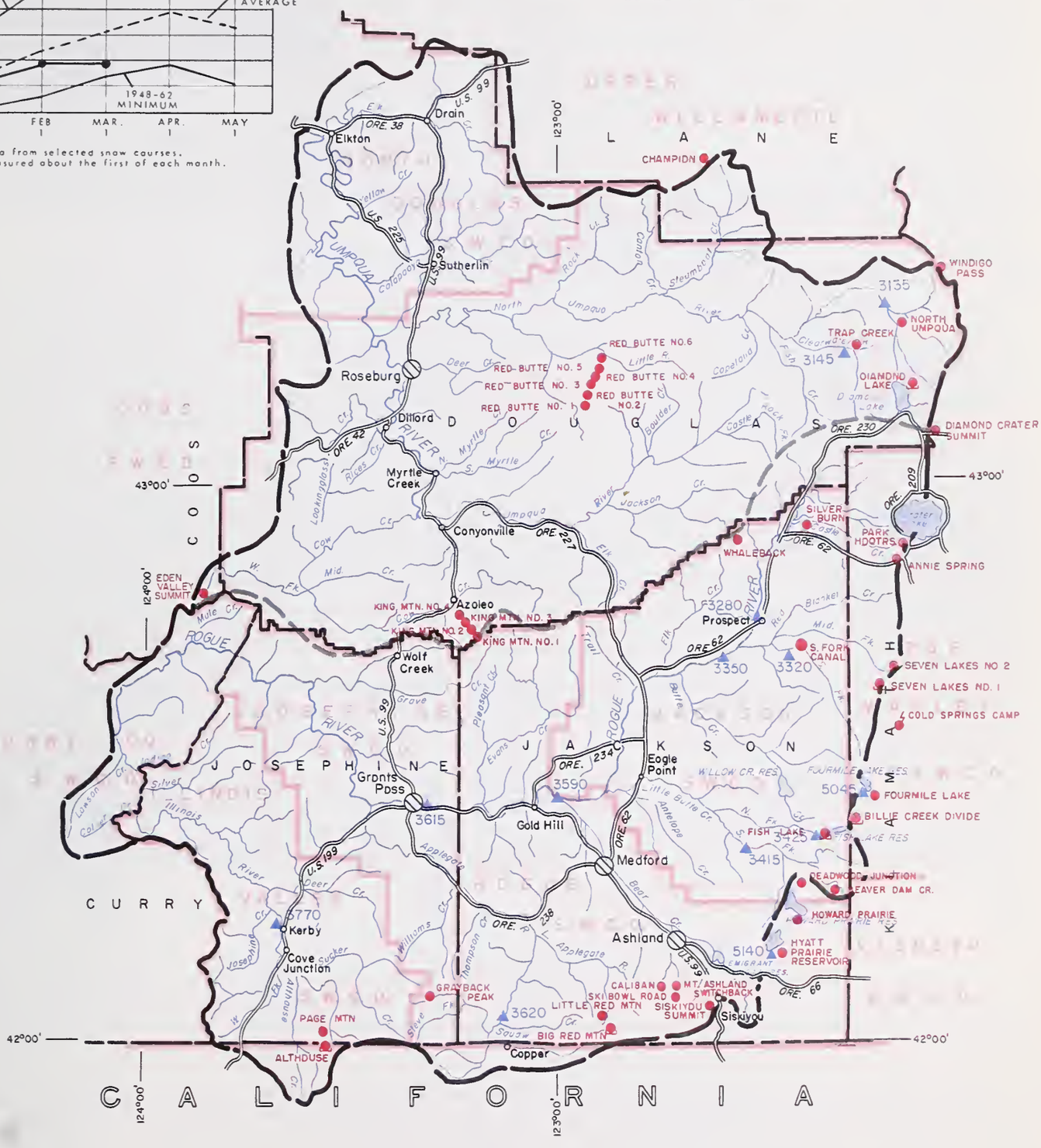
STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of March 1, 1968

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
3620	Applegate near Copper	120	April-Sept.	142	84
3145	Clearwater above Trap Creek[d]	60	Aprkl-Sept.	75	80
5045	Fourmile Lake net Inflow[d]	3.6	March-Sept.	6.0	60
		3.3	April-Sept.	5.4	61
5140	Hyatt Reservoir net Inflow[d]	2.9	April-Sept.	5.8	50
3771	Illinois River near Kerby	280	March-July	348	80
		166	April-Sept.	212	78
3425	Little Butte, N. Fk. at Fish Lk. nr. Lake Cr.[d]	11.0	April-Sept.	16.0	69
3415	Little Butte, So. Fk. nr. Lake Creek	23	April-July	38	60
	Note: Minimum flow will drop to 100 c.f.s. by May 17.				
3280	Rogue above Prospect	236	April-July	295	80
		300	April-Sept.	355	84
3320	Rogue, South Fork near Prospect[d]	50	April-July	70	71
		60	April-Sept.	82	73
3350	Rogue River below South Fork	430	April-July	611	70
		540	April-Sept.	754	72
3590	Rogue at Raygold near Central Point	626	April-July	837	75
		750	April-Sept.	1001	75
3615	Rogue at Grants Pass	760	April-Sept.	993	76
3135	Umpqua, No. blw. Lemolo Res. nr. Toketee Falls[d]	140	April-Sept.	186	75

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

ROGUE, UMPQUA WATERSHEDS





LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Precipitation Gage
- Radio Telemetry

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Althouse	4530	2/27	0	0.0	5.6	6.2
Annie Spring	6018	2/27	69	29.0	38.8	39.8
Beaver Dam Creek	5100	2/28	13	5.1	12.1	- -
Big Red Mountain	6500	2/27	52	24.0	28.3	28.2 h
Billie Creek Divide	5300	2/26	26	9.8	18.8	22.1
Caliban	6500	3/1	63	27.7	29.0	- -
Champion	4500	2/29	18	8.2	23.8	24.7
Cold Springs Camp	6100	2/23	49	18.7	28.4	- -
Deadwood Junction	4600	2/28	9	3.5	8.2	- -
Diamond Crater Summit	5800	2/20	52	19.5	28.2	- -
Diamond Lake	5315	2/20	34	12.6	16.8	21.9
Fish Lake	4865	2/27	12	4.6	- -	13.6
Fourmile Lake	6000	2/16	44	17.8	22.0	25.0 h
Grayback Peak	6000	2/26	31	15.4	21.0	25.8
Howard Prairie	4500	2/28	15	5.7	9.0	- -
Hyatt Prairie Reservoir	4900	2/28	5	1.9	7.3	8.7 h
King Mountain #1	4500	2/27	10	4.7	0.0	- -
King Mountain #2	4000	2/27	T	T	0.0	- -
King Mountain #3	3648	2/27	0	0.0	0.0	- -
King Mountain #4	3049	2/27	0	0.0	0.0	- -
King Mountain #5	2380	2/27	0	0.0	0.0	- -
King Mountain #6	1820	2/27	0	0.0	0.0	- -
Little Red Mountain	6500	2/27	35	16.1	23.1	22.3 h
Mt. Ashland Switchback	6400	3/1	65	29.0	29.2	- -
North Umpqua	4215	2/28	12	4.6 j	14.1	12.6 h
Page Mountain	4045	2/27	0	0.0	0.0	5.4 h
Park Headquarters	6450	2/27	86	35.6	50.5	50.3
Red Butte #1	4560	2/27	12	5.9	13.0	- -
Red Butte #2	4000	2/27	0	0.0	6.4	- -
Red Butte #3	3500	2/27	0	0.0	2.1	- -
Red Butte #4	3000	2/27	0	0.0	0.0	- -
Red Butte #5	2500	2/27	0	0.0	0.0	- -
Red Butte #6	2000	2/27	0	0.0	0.0	- -
Seven Lakes #1	6800	2/28	56	26.5	46.9	51.5 h
Seven Lakes #2	6200	2/29	47	24.1	32.4	37.2 h
Silver Burn	3720	2/29	19	8.1	11.8	13.1
Siskiyou Summit	4630	2/28	4	1.2	6.4	6.9
Ski Bowl Road	6000	3/1	54	23.2	24.5	- -
South Fork Canal	3500	2/29	0	0.0 j	0.0	2.7
Trap Creek	3800	2/28	10	4.6 j	14.3	10.7 h
Whaleback	5140	2/29	49	20.1	24.7	31.7
Windigo Pass	5800	2/26	50	20.5	32.8	39.3 h

WATER SUPPLY OUTLOOK
KLAMATH WATERSHEDS
OREGON

as of

MARCH 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Klamath County farmers and ranchers, depending on direct diversion for their irrigation water supply, can expect far below average supplies this spring and summer. Reservoir storage in Klamath Basin is good, however, and those with access to this stored water should "get by" this coming season.

SNOW COVER

Much of the snowpack in Klamath County melted in February from high temperatures and rainfall, especially at lower elevations. Water content of the snowpack is currently 57 percent of average compared to 73 percen of average d on February 1.

PRECIPITATION

Winter precipitation since November, according to the U. S. Weather Bureau, has only been 73 percent of average including February which was 106 percent.

SOIL MOISTURE

The soil moisture station at Bly Mountain indicated a soil profile wet up to 66 percent of capacity on March 1. Most soils are well saturated now in the top twenty-four inches and any rainfall during the next month should benefit the streamflow.

RESERVOIR STORAGE

Storage in Upper Klamath Lake as of March 1 amounted to 448,900 acre feet which is 109% of average. The inflow of 181,800 acre feet during February was 108 percent of average and further indicates the early loss of snow and the rainfall received during last month.

Gerber Reservoir currently contains 59,700 acre feet or 150% of average while Clear Lake is holding 213,000 acre feet or 103 percent of average.

STREAMFLOW

Expected flows of Klamath County streams is as follows:

Clear Lake inflow	Mar.-June	47,000 acre feet	62% of Average
Gerber inflow	Mar.-June	20,000 acre feet	53% of Average
Sprague nr. Chiloquin	Apr.-Sept.	164,000 acre feet	57% of Average
Upper Klamath Inflow	Apr.-Sept.	390,000 acre feet	61% of Average
Williamson blw. Sprague	Apr.-Sept.	294,000 acre feet	60% of Average

Report prepared by
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These forecasts assume that near average temperatures and precipitation will occur from now to the end of the forecast period.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Ft. Klamath Valley	Average	Fair
Lost River (Clear Lake)	Average	Average
Lost River (Gerber)	Average	Average
Lost River (Willow Res.)	Average	Fair
Sprague River	Average	Fair
Upper Klamath Lake	Average	Average
Williamson River	Average	Fair

RESERVOIR STORAGE (1,000 Ac. Ft.) March 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Clear Lake	440.2	213.0	198.4	207.4
Gerber	94.0	59.7	46.0	39.9
Upper Klamath Lake	584.0	448.9	346.8	410.6

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of March 1, 1968

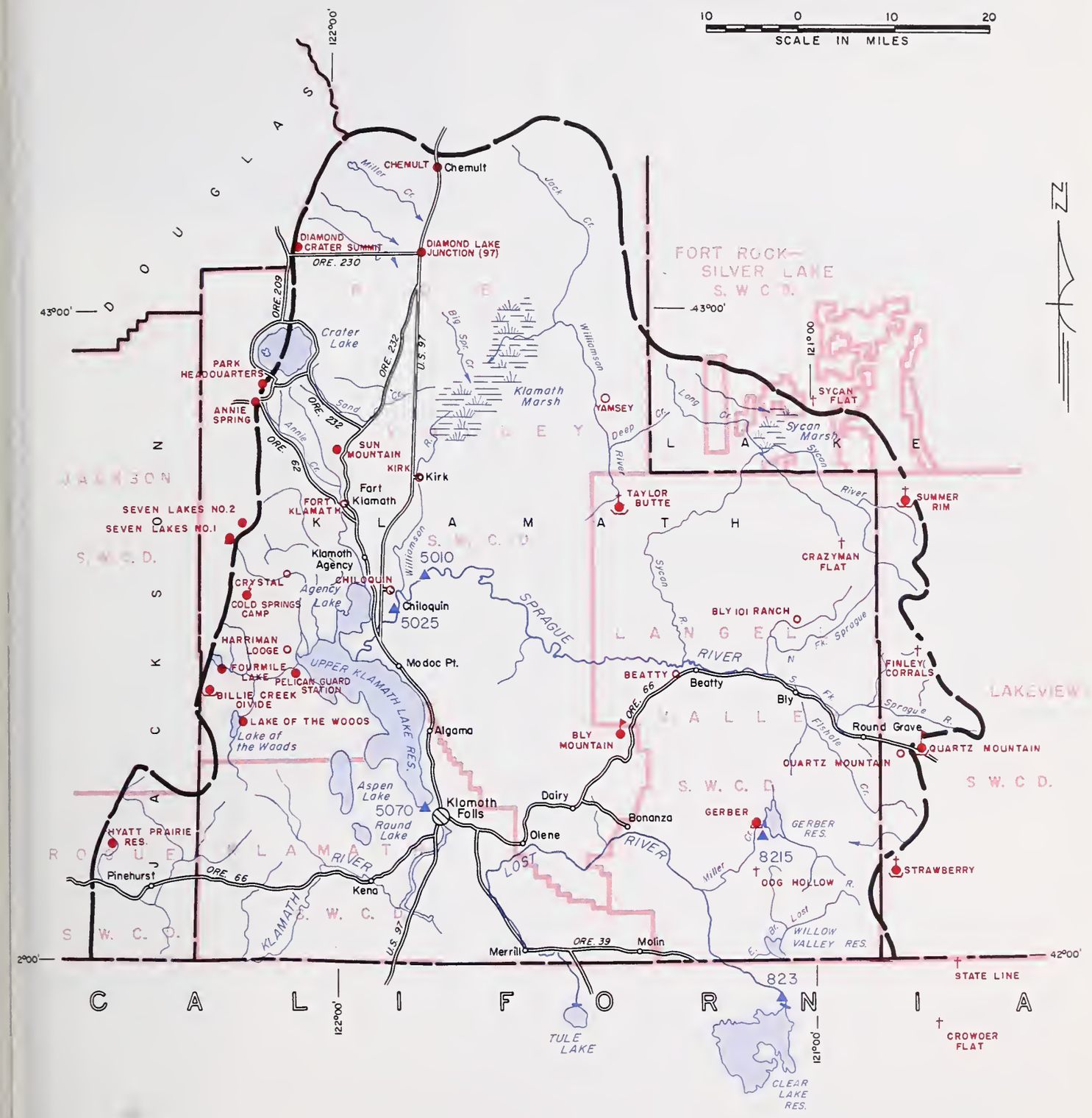
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
823	Clear Lake Reservoir Inflow[k]	47	March-June	76	62
8215	Gerber Reservoir Inflow[k]	20	March-June	38	53
5010	Sprague near Chiloquin	156	March-June	292	53
		164	April-Sept.	289	57
5070	Upper Klamath Lake net Inflow[k]	370	March-June	671	55
		390	April-Sept.	639	61
5025	Williamson below Sprague River	254	March-June	477	53
		294	April-Sept.	490	60

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bly Mountain	5090	42	14.0	2/20	9.3	10.3	- -

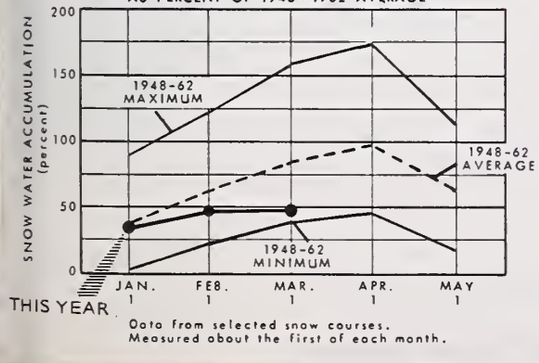
(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

KLAMATH WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 10

AS PERCENT OF 1948 - 1962 AVERAGE



Data from selected snow courses.
Measured about the first of each month.

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station
- Precipitation Gage
- Radio Telemetry

OR-10-

SNOW

SNOW COURSE NAME	ELEVATION	CURRENT INFORMATION: DATE OF SURVEY	CURRENT INFORMATION: SNOW DEPTH (Inches)	CURRENT INFORMATION: WATER CONTENT (Inches)	PAST RECORD: WATER CONTENT (Inches) LAST YEAR	PAST RECORD: WATER CONTENT (Inches) 1948-62 AVERAGE
Annie Spring	6018	2/27	69	29.0	38.8	39.8
Beatty (PP&L)	4300	b				
Billie Creek Divide	5300	2/26	26	9.8	18.8	22.1
Bly Mountain	5090	2/20	17	5.6	8.2	4.8 m
Bly 101 Ranch (PP&L)	4800	b				
Chemult	4760	2/26	17	6.0	9.8	11.4
Chiloquin (PP&L)	4187	b				
Cold Springs Camp	6100	2/23	49	18.7	28.4	- -
Crazyman Flat e	6100	2/26	12	4.3	8.9	8.5 m
Crowder Flat e (Calif.)	5200	2/26	0	0.0	1.3	2.2 m
Crystal (PP&L)	4200	2/28	11	3.8	7.5	9.7
Diamond-Crater Summit	5800	2/20	52	19.5	28.2	- -
Diamond Lake Junction (97)	4600	2/20	14	5.1	6.5	- -
Dog Hollow e	4900	2/26	0	0.0	0.0	0.1 m
Finley Corrals e	6000	2/26	26	9.4	11.6	14.0 m
Fort Klamath (PP&L)	4150	2/28	6	2.4	3.4	3.3
Fourmile Lake	6000	2/16	44	17.8	22.0	25.0 h
Gerber	4850	2/15	7	2.4	0.0	2.2 h
Harriman (PP&L)	4200	b				
Hyatt Prairie Reservoir	4900	2/28	5	1.9	7.3	8.7 h
Kirk (PP&L)	4533	b				
Lake of the Woods	4960	2/26	16	5.3	8.8	11.8
Park Headquarters	6450	2/27	86	35.6	50.5	50.3
Pelican Guard Station	4150	2/26	0	0.0	3.4	- -
Quartz Mountain	5320	3/1	7	2.1	7.1	6.2
Quartz Mountain (PP&L)	5504	3/1	13	4.8	7.9	6.3
Seven Lakes #1	6800	2/28	56	26.5	46.9	51.5 h
Seven Lakes #2	6200	2/29	47	24.1	32.4	37.2 h
State Line e (Calif.)	5750	2/26	4	1.5	7.3	8.9 m
Strawberry	5760	2/29	9	3.4	7.8	7.9 h
Summer Rim	7200	2/27	31	10.6 j	16.3	14.8
Sun Mountain	5350	2/21	41	14.0	21.4	23.9
Sycan Flat e	5500	2/26	0	0.0	7.9	6.1 m
Taylor Butte	5100	2/27	7	2.5	7.1	6.2 h
Yamsey (PP&L)	4600	b				

WATER SUPPLY OUTLOOK
LAKE COUNTY, GOOSE LAKE WATERSHEDS
OREGON

as of

MARCH 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Water supplies for most Lake County farmers and ranchers are expected to be seriously short this spring and summer. Supplies will be sufficient only where storage is available and adequate. Warm temperatures and rainfall during February melted most of the snowpack except at the highest elevations and watersheds can be expected to produce very little streamflow in the summer season.

SNOW COVER

The snow cover in Lake County was reduced considerably during February and is currently 56 percent of average compared to last month's 94 percent.

PRECIPITATION

The November through February precipitation has been 74 percent of average according to the U. S. Weather Bureau.

RESERVOIR STORAGE

Drews Reservoir contains 44,500 acre feet or 119 percent of average which is an increase of 8,600 acre feet over last month. Cottonwood storage on March 1 was 2300 acre feet or 72 percent of average while Thompson Valley reported 14,600 acre feet as of March 1. Lands served from these supplies of stored water will "get by" this season if careful use is made of the water.

SOIL MOISTURE

Soils gained considerable moisture during February from the rainfall and snow melt that occurred. The soils are presently 68 percent of capacity compared to 54 percent last month and 70 percent March 1, 1967. The top of the soil profile is currently saturated and any rainfall during the next month would contribute beneficially to streamflow.

STREAMFLOW

Drews Reservoir net inflow is forecast 25,000 acre feet or 53% of average for March-July.

The Warner Valley streams are expected to produce the following amounts:

Honey Creek	March-June	7,000	39%
Deep Creek	March-June	50,000	64%
Twentymile Creek	March-June	14,000	50%

Sixty-four thousand acre feet will flow past the gaging station near Paisley on the Chewaucan. This is for the March-June period and is 72% of average. Silver Creek is forecast at 15,000 acre feet for March-July or 71% of average.

The above forecasts are made with the assumption that near average temperatures and precipitation will occur through the forecast season.

Report prepared by
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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Chewaucan	Average	Fair
Crooked Creek	Fair	Poor
Deep Creek	Fair	Fair
Dry Creek	Fair	Poor
East Side Goose Lake	Fair	Poor
Guano Lake	Fair	Poor
Honey Creek	Fair	Poor
Lakeview Water Users Assn.	Average	Average
Rock Creek (Hart Mtn.)	Fair	Poor
Silver Cr. (Thompson V.Res)	Average	Fair
Buck Creek	Poor	Poor
Summer Lake	Fair	Fair
Thomas Creek	Fair	Poor
Twentymile Creek	Fair	Poor
Warner Lakes	Fair	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) March 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cottonwood	8.7	2.3	1.6	3.2*
Drews	63.0	44.5	31.9	37.3
Thompson Valley	17.4	*b*		

*Average for years of record after reconstruction.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of March 1, 1968

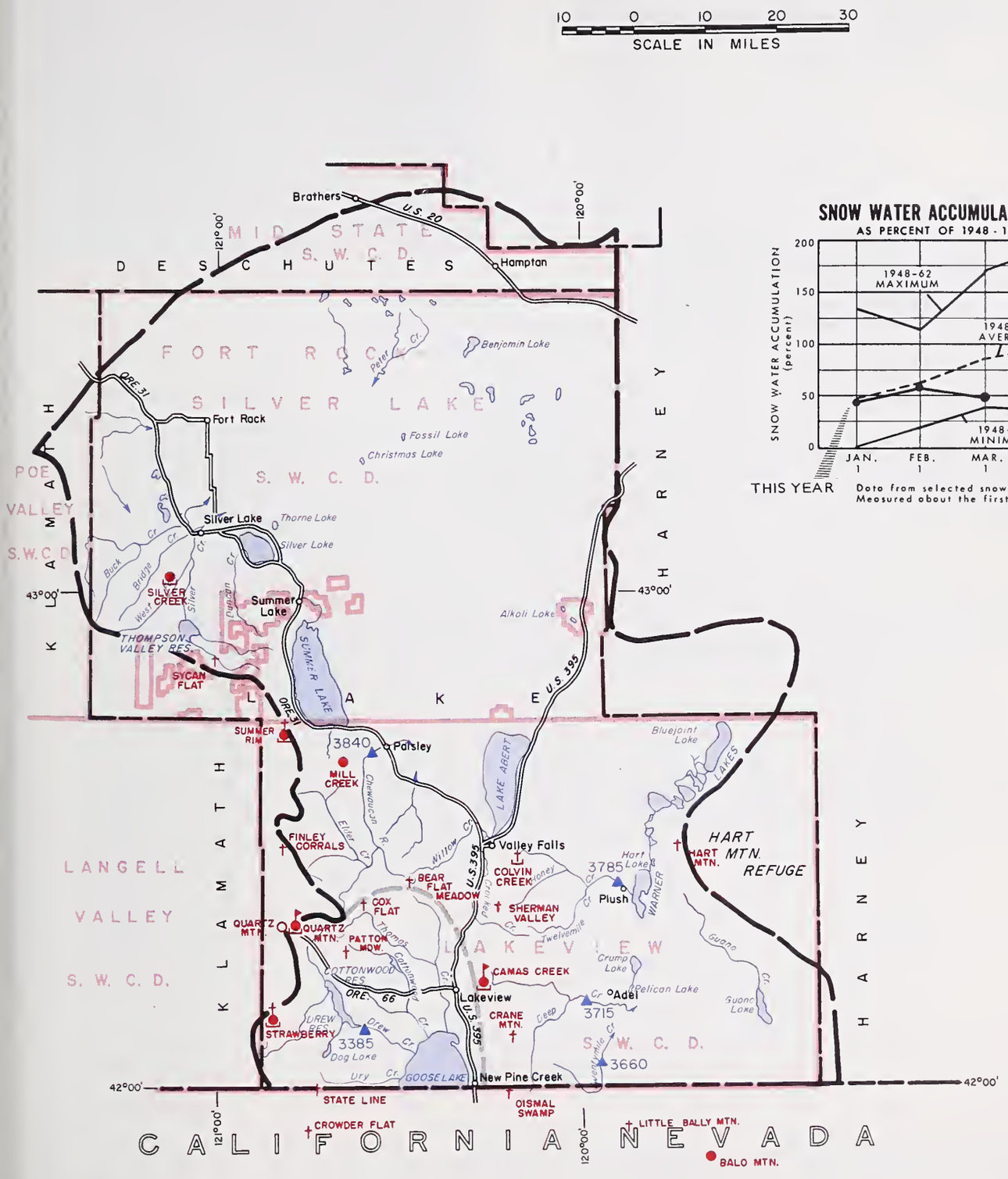
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
3840	Chewaucan near Paisley	64	March-June	89	72
3715	Deep above Adel	50	March-June	78	64
3385	Drews Reservoir net Inflow[d]	25	March-July	47	53
3785	Honey near Plush	7.0	March-June	18.0	39
3900	Silver Creek near Silver Lake	15	March-July	21	71
3660	Twentymile near Adel	14	March-June	28	50

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Camas Creek	5720	42	14.5	2/28	12.9	12.0	11.4
Quartz Mountain	5320	48	15.3	3/1	7.5	8.9	6.8

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

LAKE COUNTY, GOOSE LAKE WATERSHEDS



SNOW WATER ACCUMULATION IN AREA 11

AS PERCENT OF 1948 - 1962 AVERAGE

Data from selected snow courses.
Measured about the first of each month.

N

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station
- Precipitation Gage

SNOW

SNOW COURSE NAME	ELEVATION	CURRENT INFORMATION: DATE OF SURVEY	CURRENT INFORMATION: SNOW DEPTH (Inches)	CURRENT INFORMATION: WATER CONTENT (Inches)	PAST RECORD: WATER CONTENT (Inches) LAST YEAR	PAST RECORD: WATER CONTENT (Inches) 1948-62 AVERAGE
Adin Mountain (Calif.)	6350	2/28	23	8.2	12.3	11.8
Bald Mountain[e] (Nev.)	6720	2/26	2	1.0	4.8	3.5
Bear Flat Meadow[e]	5900	2/26	18	6.5	10.9	9.8[m]
Camas Creek	5720	2/28	14	4.9	9.5	11.2
Cedar Pass	7100	3/1	32	10.6	11.8	13.8
Colvin Creek[e]	6550	2/26	0	0.0	7.3	- -
Cox Flat[e]	5750	2/26	6	2.2	7.3	6.5[m]
Crane Mountain[e]	6020	2/26	0	0.0	0.7	5.1[m]
Crowder Flat[e] (Calif.)	5200	2/26	0	0.0	1.3	2.2[m]
Dismal Swamp[e] (Calif.)	7000	2/26	30	10.5	15.2	15.8[m]
Finley Corrals[e]	6000	2/26	26	9.4	11.6	14.0[m]
Hart Mountain[e]	6350	2/26	0	0.0	0.7	2.0[m]
Little Bally Mountain[e] (Nev.)	6600	2/26	0	0.0	2.3	- -
Mill Creek	6200	2/28	13	4.5[j]	7.9	8.3
Patton Meadows[e]	6800	2/26	26	9.4	15.8	- -
Quartz Mountain (PP&L)	5504	3/1	13	4.8	7.9	6.3
Quartz Mountain	5320	3/1	7	2.1	7.1	6.2
Sherman Valley[e]	6600	2/26	12	4.2	11.6	11.1[m]
Silver Creek	4900	2/26	0	0.0	2.5	3.5
State Line[e] (Calif.)	5750	2/26	4	1.5	7.3	8.9[m]
Strawberry	5760	2/29	9	3.4	7.8	7.9[h]
Summer Rim	7200	2/27	31	10.6[j]	16.3	14.8
Sycan Flat[e]	5500	2/26	0	0.0	7.9	6.1[m]

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
HARNEY BASIN WATERSHEDS
OREGON

as of

MARCH 1, 1968

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Severe drought conditions are forecast for farmers, ranchers and other water users of Harney County in the spring and summer of 1968. Flow of most small streams, heading in low and medium elevations, has already past the peak and many are all through. Available water supplies will be extremely short this season.

PRECIPITATION

Winter precipitation, November through February, has been only 66 percent of the average (1948-62). February alone has been 100 percent of the same 15-year average.

SNOW COVER

Water content of the mountain snowpack has been practically eliminated at all but the very highest elevations by unusually warm temperatures and precipitation in February. The remaining snow is only 35 percent of the March first average in the north half of the county and 40 percent average in South Harney.

Summer streamflow will be completely dependent upon whatever rainfall occurs over the watersheds.

SOIL MOISTURE

Watershed soils are now wet up to 70 percent of capacity in North Harney and 76 percent of capacity in South Harney.

STREAMFLOW

The following streamflow forecasts are compared with the 15-year average and assume near average conditions of temperature and precipitation will prevail for the next five months:

Stream Station	Period	Thousands of Acre Ft.	Percent Average
Silvies R. near Burns	March-June	34	29
Silver Cr. near Riley	April-July	6.5	30
Donner und Blitzen R.	March-June	20	34
Trout Cr. near Denio	March-July	3.3	38

Report prepared by
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WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Catlow Valley	Poor	Poor
Cow Creek	Poor	Poor
Donner und Blitzen River	Fair	Poor
Mill-Coffeepot Creeks	Poor	Poor
Rattlesnake Creek	Poor	Poor
Silver Creek	Fair	Poor
Silvies River	Fair	Poor
Soldier-Prather Creek	Poor	Poor
Trout Creek	Poor	Poor
Whitehorse Creek	Poor	Poor

RESERVOIR STORAGE (1,000 Ac. Ft.) March 1, 1968

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of March 1, 1968

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
3960	Donner und Blitzen near Frenchglen	20	March-June	59	34
		21	April-Sept.	62	34
4030	Silver near Riley	6.5	April-July	22	30
3935	Silvies near Burns	34	March-June	116	29
		25	April-Sept.	99	25
4065	Trout near Denio	3.3	March-July	8.7	38
		3.0	April-Sept.	8.4	36

SOIL MOISTURE

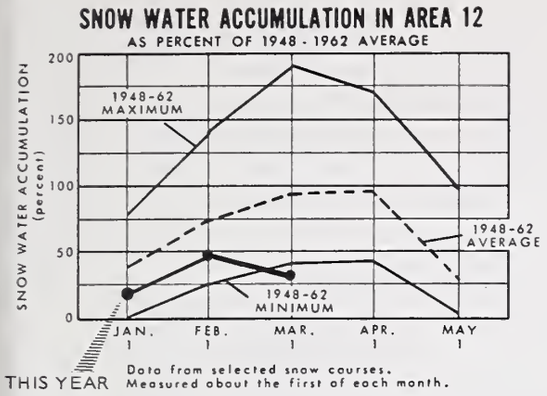
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Spring	5900	42	16.9	2/28	11.3	10.8	7.0
Fish Creek	7900	48	15.0	3/2	10.2	10.7	10.3
Folly Farm	4450	30	12.5	c			
Silvies	6900	48	16.4	3/2	13.8	14.2	11.5
Snow Mountain	6300	48	16.7	2/28	11.5	14.8	12.2
Starr Ridge	5150	36	10.6	2/28	8.8	10.4	7.9
Stinking Water	4800	48	21.9	c			
Willow-Bald	5000	24	6.6	2/28	4.2	6.4	3.8

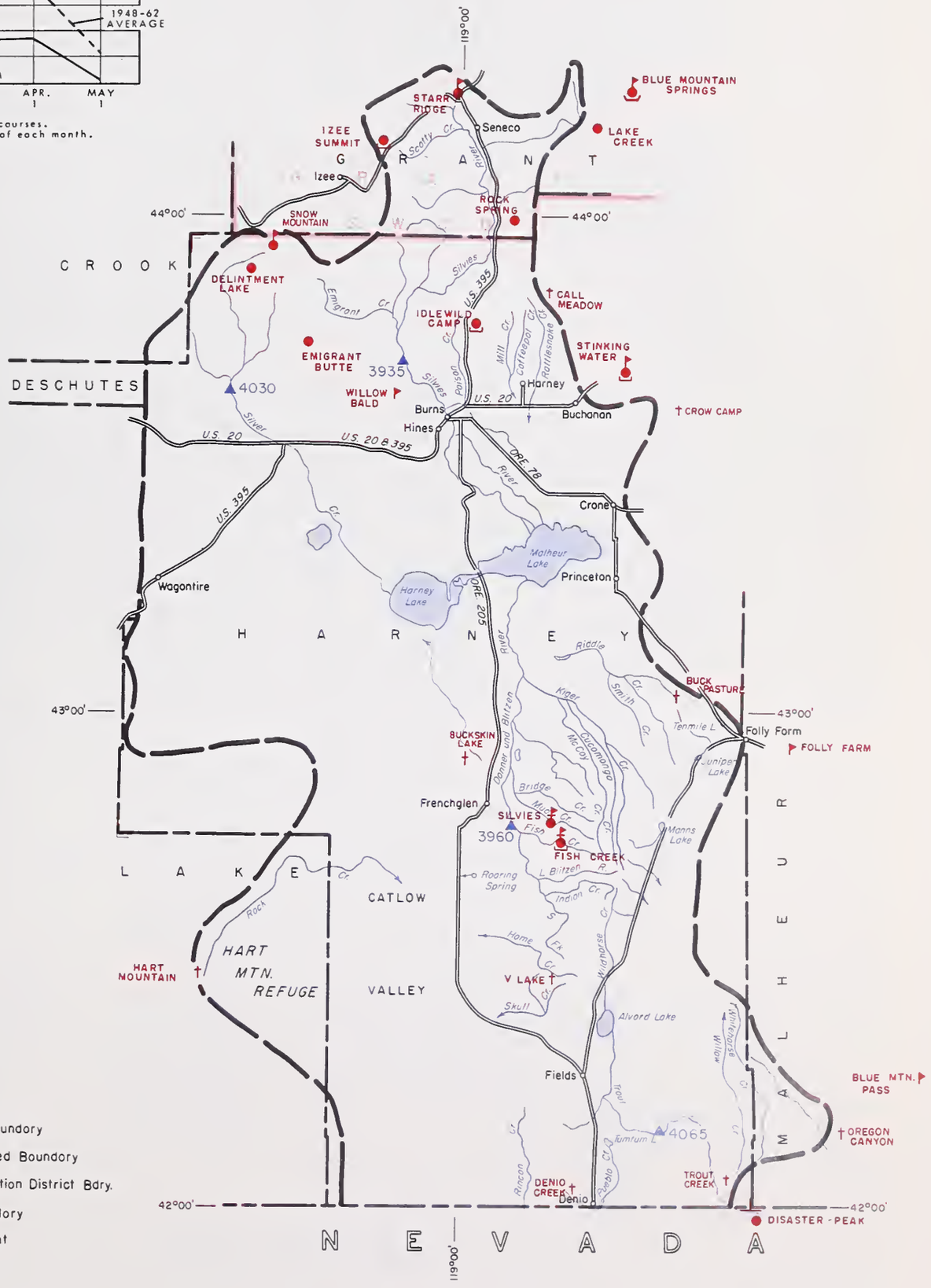
SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1948-62 AVERAGE
Blue Mountain Springs	5900	2/28	28	9.7	11.6	15.2
Buck Pasture[e]	5700	2/27	0	0.0	3.2	- -
Buckskin Lake[e]	5200	2/27	0	0.0	0.0	- -
Call Meadows[e]	5340	2/27	0	0.0	3.2	- -
Crow Camp[e]	5500	2/27	0	0.0	0.9	- -
Delintment Lake	5600	b				
Denio Creek[e]	6000	2/27	0	0.0	T	- -
Disaster Peak (Nev.)	6500	2/27	12	3.4	12.2	14.6[h]
Emigrant Butte	5000	b				
Fish Creek	7900	3/2	38	13.0	20.4	- -
Hart Mountain[e]	6350	2/26	0	0.0	0.7	2.0[m]
Idlewild Camp	5200	2/29	1	0.2	5.4	5.4
Izee Summit	5293	2/29	7	2.8	6.7	8.0
Lake Creek	5120	2/28	16	5.7	8.5	10.5
Oregon Canyon[e]	6950	2/27	T	T	8.9	- -
Rock Spring	5100	2/29	5	1.5	5.1	5.6
Silvies	6900	3/3	4	2.4	12.4	- -
Snow Mountain	6300	2/28	19	7.4	12.6	- -
Starr Ridge	5150	2/29	3	1.2	4.7	5.6
Stinking Water	4800	3/1	0	0.0	2.1	3.7[h]
Trout Creek[e]	7800	2/27	12	4.3	9.9	- -
"V" Lake[e]	6600	2/27	0	0.0	6.6	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

HARNEY BASIN WATERSHEDS





LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- ● Snow Course
- † Aerial Snow Depth Gage
- ⚑ Soil Moisture Station
- ⊔ Precipitation Gage

"The Conservation of Water begins with the Snow Survey"

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.

OWYHEE, MALHEUR WATERSHEDS (1)

Owyhee River

Antelope Ridge	(Ida)	20	8S	1E	5900
Battle Creek	(Ida)	10	11S	1E	5700
Bear Creek	(Nev)	31	46N	58E	7800
Big Bend		30	45N	56E	6700
Blue Mtn Pass		4	38S	42E	5290
Bucskin, Lower	(Nev)	25	45N	39E	6700
Bucskin, Upper	(Nev)	11	45N	39E	7200
Bull Basin	(Nev)	29	12S	5W	5600
Columbia Basin	(Nev)	31	44N	53E	6650
Disaster Peak	(Nev)	8	47N	34E	6500
Fawn Creek	(Nev)	2	45N	52E	7000
Pitch Creek		4	33S	33E	7000
Rally Farm Summit		8	30S	38E	4450
Fox Creek	(Nev)	33	46N	58E	6800
Fry Canyon	(Nev)	31	43N	54E	6700
Gold Creek	(Nev)	31	45N	56E	6600
Granite Peak	(Nev)	22	44N	39E	7800
Hyde Pasture	(Ida)	31	8S	2W	5800
Jack Creek, Lower	(Nev)	18	42N	53E	6800
Jack Creek, Upper	(Nev)	9	42N	53E	7250
Jack Peak	(Nev)	28	42N	53E	8420
Jordan Valley		0	30S	46E	4390
Lacamp Creek	(Nev)	13	42N	38E	6000
Laurel Draw	(Nev)	20	45N	53E	6700
Lookout Butte		2	40S	47E	5650
Louse Canyon		27	40S	44E	6420
Martin Creek	(Nev)	18	44N	40E	6700
Merritt Mountain	(Nev)	10	46N	54E	7000
Midas	(Nev)	18	39N	46E	7200
Mud Flat	(Ida)	34	9S	2W	5500
Oregon Canyon		8	40S	40E	6950
Quinn Ridge	(Nev)	9	47N	41E	6300
Red Canyon	(Ida)	32	11S	4W	6500
Rodeo Flat	(Nev)	36	43N	53E	6800
7b Creek	(Nev)	6	44N	58E	7100
Silver City	(Ida)	6	5S	3W	6400
Silvies		35	32S	32½E	6900
South Mountain No.2	(Ida)	10	2S	5W	6340
Succor Creek	(Ida)	25	3S	5W	6100
Taylor Canyon	(Nev)	35	39N	53E	6200
Toe Jam	(Nev)	29	40N	50E	7700
Tremewan Ranch	(Nev)	9	39N	55E	5700
Triangle	(Ida)	25	7S	3W	5150
Trout Creek		10	41S	38E	7800
"W" Lake		31	35½S	32½E	6600
Vaught Ranch	(Ida)	10	11S	1W	5950
War Eagle	(Ida)	20	5S	3W	7700

Malheur River

Barney Creek		16	14S	36E	5950
Blue Mountain Spring		21	15S	35E	5900
Buck Pasture		21	29S	35E	5700
Bully Creek		10	17S	37E	5300
Call Meadows		29	20S	33E	5340
Cottonwood-Indian		10	19S	39E	4320
Crane Prairie		24	16S	34E	5375

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
18F8a	Crow Camp	Unsurveyed			
18E20	Eldorado Pass	20	14S	38E	4600
18E20a	Flag Prairie	32	16S	36E	4750
18E18	Lake Creek	10	16S	33½E	5120
18E22a	Logan Valley	13	16S	33½E	5100
18F1	Rock Spring	22	18S	32E	5100
18E32p*	S. Fk. Willow Cr.	2	16S	37E	5500
18F4MP	Stinking Water	33	21S	34E	4800

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS (2)

Burnt River

18E14	Barney Creek	16	14S	36E	5950
18E13M	Blue Mountain Summit	32	11S	40E	5430
17E1MP	Dooley Mountain	20	14S	38E	4600
18E20	Eldorado Pass	21	9S	36E	5340
18E8	Gold Center	34	10S	35½E	5100
18E9	Tipton				

Powder River

18E1	Anthony Lake	18	7S	37E	7125
18E33	Anthony Sri Hill				
18E5	Bourne	33	8S	37E	5800
17E1MP	Dooley Mountain	32	11S	40E	5430
18E3	Ellertson Meadows	18	8S	38E	5400
18E8	Gold Center	21	9S	36E	5340
18E6A	Goodrich Lake	4	9S	38E	6775
18E29	Intake House	5	8S	38E	4930

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
17D12m	Ladd Summit	5	5S	39E	3730
18E23	Little Alps	10	7S	37E	6200
18E30	Little Antone	1	7S	37E	5000
18E28	Power Plant	33	7S	38E	3990
17D7	Taylor Green	3	6S	22E	5740

Pine Creek

17D8	Schneider Meadows	35	6S	45E	5400

Grande Ronde River

17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2P	Aneroid Lake No. 2	16	4S	45E	7300
18E1	Anthony Lake	18	7S	37E	7125
17D10a	Bald Mountain	14	4S	41E	6700
18D9	Beaver Reservoir	8	5S	37E	5340
18D8P	County Line	28	4S	34E	4800
18D6P	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	33E	4300
17D13a	Mirror Lake	34	4S	44E	8200
17D6M	Moss Spring	28	3S	41E	5850
18D7	Schoolmarm	28	4S	34E	4775
17D11a	Standley	28	2S	42E	7400
17D7	Taylor Green	3	6S	42E	5740
18D3M	Tollgate	31	4N	38E	5070
17D15a	TV Ridge	12	2S	43E	7000

Imnaha River

17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2P	Aneroid Lake No. 2	16	4S	45E	7000
17D14a	Big Sheep	33	4S	46E	6200.

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS (3)

Umatilla River

19D2P	Arbuckle Mountain	33	4S	29E	5400
18D14m	Athena-Weston Summit	21	4N	35E	1700
18D12MP	Battle Mountain Summit	29	3S	31E	4340
18D4M	Emigrant Springs	29	1N	35E	3925
18D6P	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	33E	4300
18D3M	Tollgate	32	4N	38E	5070
18D13	Walla Walla Diversion	22	6N	38E	2400

Walla Walla River

18D16	Blue Mountain Camp	35	4N	37E	4300
18D3M	Tollgate	32	4N	38E	5070
18D17	Weston Mountain	25	4N	35E	2700

Willow Creek

19D2P	Arbuckle Mountain	33	4S	29E	5400
18E1P	Anthony Lake	18	7S	37E	7125

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.
19E3MP	Derr	14	13S	23E	5670
20E1MP	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
19F1M	Snow Mountain	1	19S	26E	6300
19E4	Tamarack	8	15S	25E	4800

HOOD, MILE CREEKS LOWER DESCHUTES WATERSHEDS (6)

Hood River

21D6P	Brooks Meadows	2	2S	10E	4300
21D25M	Cooper Spur	6	2S	10E	3490
21D1	Greenpoint Reservoir	28	2N	9E	3400
21D20	Knebal Springs	31	1S	11E	3850
21D23	Parkdale	6	1S	10E	1770
21D8 *	Phlox Point	6	3S	9E	5600
21D4	Red Hill	20	1S	9E	4400
21D9	Still Creek	25	3S	8½E	3700
21D7	Tilly Jane	15	2S	9E	6000
21D21	Ulrich Ranch Junction	28	1S	11E	3350
21D30	Umbrella Falls	3	3S	9E	5400
21D24	Upper Valley	20	1S	10E	2530
21D28	Switchback	28	1S	9E	3255

Mile Creek - Masier Creek

21D6P	Brooks Meadows	2	2S	10E	4300
21D20	Knebal Springs	31	1S	11E	3850
21D21	Ulrich Ranch Junction	28	1S	11E	3350

Lower Deschutes River

21D12	Clear Lake	29	4S	9E	3500
21D22	Clear Lake Experimental	29	4S	9E	3500
21E6	Hogg Pass	24	13S	7½E	4755

LOWER COLUMBIA WATERSHEDS (7)

Sandy River

21D8 *	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700

WILLAMETTE WATERSHEDS (8)

Clackamas River

21D15	Big Bottom	25	6S	7E	2118
21D13	Clackamas Lake	35	5S	8½E	3400
21D12	Clear Lake	29	4S	9E	3500
21D16	Lake Harriet	4	6S	7E	2045
21D14 *	Peavine Ridge	14 & 15	6S	7E	3600
21D8 *	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700
21D17	Timothy Lake	26	5S	8E	3295

Santiam River

22E1	Detroit (town)	1	10S	5E	1610
22E2	Detroit Dam	7	10S	5E	1580
21E6	Hogg Pass	24	13S	7½E	4755
21E4	Marion Forks	28	11S	7E	2730
22E3	Mill City	29	9S	3E	826
21E5	Santiam Junction	14	13S	7E	3990
21E3	Whitewater Bridge	28	10S	7E	2175

McKenzie River

21E8	Dead Horse Grade	13	16S	7E	3800
22E4	Lost Creek Ranch	24	16S	6E	1956
21E7	McKenzie	35	15S	7½E	4800
22E5	McKenzie Bridge	13	16S	5E	1372
22E6	Vida	28	16S	2E	200
21E9	White Branch Slide	15	16S	7E	2800

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.

UPPER JOHN DAY WATERSHEDS (4)

Upper John Day River

19D2P	Arbuckle Mountain	33	4S	29E	5400
18D12MP	Battle Mountain Summit	29	3S	31E	4340
19E2M	Beech Creek Summit	4	12S	30E	4800
18E16MP	Blue Mountain Spring	21	15S	35E	5900
18E13M	Blue Mountain Summit	16	15S	36E	5098
19E3MP	Derr	14	13S	23E	5670
18E27a	East Fork Canyon	15	15S	32E	5700
18E8	Gold Center	21	9S	36E	5340
18E22a	Indian Cr. Butte	5	15S	33E	6550
19E9P	Izee Summit	28	16S	29E	5293
18D6P	Lucky Strike	28	3S	32E	5050
20E1MP	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
18E7	Olive Lake	14	6S	34E	6000
18D7	Schoolmarm	28	4S	34E	4775
19F1M	Snow Mountain	1	19S	26E	6300
19E7M	Starr Ridge	20	15S	31E	5150
18E9	Tipton	34	10S	35½E	5100
18E25MP	Williams Ranch	20	15S	32E	4500

UPPER DESCHUTES, CROOKED WATERSHEDS (5)

Upper Deschutes River

21E11	Black Pine Spring	14	16S	9E	4600
21F8	Caldwell Ranch	30	21S	8E	4400
22F3	Cascade Summit	7	23S	6E	4880
21F11	Chemult	21	27S	8E	4760
21F20P	Deer Creek	25	20S	7E	4554
21F14	Fire Road	36	21S	11E	5050
21E6	Hogg Pass	24	13S	7½E	4755
21F4	Hungry Flat	30	18S	11E	4400
21F6 *	Irish-Taylor	25	20S	6E	5500
21F17	Mowich	29	25S	25E	4700
21F10	New Crescent Lake	11	24S	6E	4800
21F19P	New Dutchman Flat #2	21	18S	9E	6400
21F13P	Paulina Lake	34	21S	12E	6330
21F15	Paulina Prairie	28	21S	11E	4785
21F3	Tangent	28	18S	10E	5400
21E15	Three Creeks Butte	27	16S	9E	5200
21E13	Three Creek Meadows	34	16S	9E	5650
22F2P	Waldo Lake	15	21S	6E	5500
22F14	Willamette Pass	33	22S	5½E	5600
22F15	Windigo Pass	32	23S	6E	5800

Crooked River

19E3MP	Derr	14	13S	23E	5670
20E1MP	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
19F1M	Snow Mountain	1	19S	26E	6300
19E4	Tamarack	8	15S	25E	4800

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.

Middle Fork Willamette River

22F3	Cascade Summit	7	23S	6E	4880
22F6	McCredie Springs	36	21S	4W	1120
22F8	Meridian Dam	13	19S	1W	740
22F7	Oakridge	16	21S	1E	1310
22F5	Railroad Overpass	21	22S	5E	2750
22F4	Salt Creek Falls	32	22S	5½E	4000
22F2 P	Waldo Lake	15	21S	6E	5500
22F14 *	Willamette Pass	33	22S	5½E	5600

Coast Fork Willamette River

22F9	Champion	12	23S	1E	4500
22F10	Golden Curry Creek	1	23S	1E	3130
22F13	Layng Creek R. S.	31	21S	1E	1200
22F12	Lund Park	29	22S	1E	1760
22F11	Wenver Creek	35	22S	1E	2420

Mary's River

23E1	Mary's Peak	21	17S	7W	3620

ROGUE, UMPQUA WATERSHEDS (9)

Rogue River

23G4	Althouse	17	41S	7W	4530
22G6	Annie Spring	19	31S	6E	6018
22G8	Beaver Dam Creek	1	38S	4E	5100
22G21P	Big Red Mountain	31	40S	1W	6500
22G13	Billie Creek Divide	30	36S	5E	5300
22G30	Caliban	16	40S	1E	6500
22G27	Deadwood Junction	8	38S	4E	4600
22F19	Diamond-Crater Summit	34	28S	6E	5800
22G14P	Fish Lake	3	37S	4E	4865
22G12	Fourmile Lake	9	36S	5E	6000
23G3	Grayback Park	9	40S	5W	6000
22G26	Howard Prairie	32	38S	4E	4500
22G16	Hyatt Prairie Reservoir	15	39S	3E	4700
23G8	King Mountain No. 1	8	33S	4W	4800
23G9	King Mountain No. 2	33	32S	4W	3646
23G10	King Mountain No. 3	20	32S	4W	2550
23G11	King Mountain No. 4	20	32S	4W	1779
22G32	Little Red Mountain	25	40S	2W	6500
22G31	Mt. Ashland Switchback	19	40S	1W	6600
23G5	Page Mountain	8	41S	3W	4045
22G5	Park Headquarters	8	31S	6E	6450
22G10P	Seven Lakes No. 1	3	34S	5E	6800
22G11	Seven Lakes No. 2	20	33S	5E	6200
22G2	Silver Burn	30	30S	4E	4720
22G20	Siskiyou Summit	17	40S	2E	4630
22G32	Ski Bowl Road	22	40S	1E	6000
22G9	South Fork Canal	12	34S	3E	3500
22G1	Whalebeck	3	31S	7E	5340

Umpqua River

22F9	Champion	12	23S	1E	4500
22F18 P	Diamond Lake	29	27S	6E	5315
23G7	Elen Valley Summit	10	32S	10W	2390
22F16	North Umpqua	19	24S	6E	4215
22F23	Red Butte No. 1	36	27S	2W	4560
22F24	Red Butte No. 2	30	27S	1W	4000
22F25	Red Butte No. 3	30	27S	1W	3000
22F26	Red Butte No. 4	20	27S	1W	2500
22F27	Red Butte No. 5	17	27S	1W	2000
22F28	Red Butte No. 6	17	27S	1W	3800
22F17	Trap Creek	1	27S	4E	3800
22G1	Whalebeck	3	31S	7E	5340
22F15	Windigo Pass	20	23S	6E	5800

KLAMATH WATERSHEDS (10)

Klamath River

22G6	Annie Spring	19	31S	6E	6018
22G13	Billie Creek Divide	30	36S	5E	5300
21G5	Bly Mountain	15 & 22	37S	11E	5090
21F11	Chemult	21	27S	8E	4760
22G24 *	Cold Springs Camp	12	35S	5E	6100
20G12a	Crazyman Flat	9	34S	15E	4100
20H2a	Crowder Flat (Cal)	30	47N	11E	5200
22F19	Diamond-Crater Summit	34	28S	6E	5800
21F18	Diamond Lake Jct. (97)	1	29S	7E	4600
21G6a	Dog Hollow	1	40S	14E	4730
20G14a	Finley Corrals	11	36S	16E	4090
22G12	Fourmile Lake	9	36S	5E	6000
21G4P	Gerber	12	34S	13E	4850
22G16	Hyatt Prairie Reservoir	15	39S	3E	4700
22G26	Howard Prairie	32	38S	4E	4500
22G15	Lake of the Woods	11	37S	5E	4960
22G5	Park Headquarters	8	31S	6E	6450
22G25	Pelican Guard Station	9	36S	4E	4150
20G6MP	Quartz Mountain	2	34S	16E	5320
22G10 P	Seven Lakes No. 1	3	34S	5E	6800
22G11	Seven Lakes No. 2	26	33S	5E	6200
20H1a	State Line (Cal)	21	48N	11E	5750
20G9AP	Strawberry	4	40S	16E	5760
20G2a	Summer Rim	15	33S	16E	7200
21G4P	Silver Creek	25 & 26	29S	13E	4900
20G13a	Sycan Flat	25	31S	14E	5500
20G6MP	Canna Creek	5	39S	21E	5720
20G16a	Crane Mountain	13	40S	21E	6020
20H3a	Diamond Swamp (Cal)	31	44N	16E	7200
19G1a	Hart Mountain	1	36S	25E	6350
20G10a	Sherman Valley	15	37S	21E	6600
19H1	Bald Mountain (Nev)	17	45N	21E	6720
19G1a	Hart Mountain	1	36S	25E	6350
19H4a	Little Bully Mt. (Nev)	8	45N	19E	6600
18E6a	Buck Pasture	21	29S	35E	5700
18E2MAP	Elk Creek	4	33S	32½E	7900
17G1a	Hart Mountain	1	36S	25E	6350
18G1MA	Silvies	35	32S	32½E	6900
18G7a	"W" Lake	31	35½S	32½E	6600

Trout and Whitehorse Creeks

18E6a	Buck Pasture	21	29S	35E	5700
18E2MAP	Elk Creek	4	33S	32½E	7900
17G1a	Hart Mountain	1	36S	25E	6350
18G1MA	Silvies	35	32S	32½E	6900
18G7a	"W" Lake	31	35½S	32½E	6600

Harney Lake

18G8a	Buckskin Lake	2	30S	30E	5200

NUMBER	NAME	LOCATION SEC.	TWP.	RGE.	ELEV.

Pacific Power and Light Company's Snow Stations

1	Beatty (PP&L)	22	36S	12E	4300
10	Bly 101 Ranch (PP&L)	22	35S	14E	4800
4	Chiloquin (PP&L)	34	34S	7E	4187
2	Crystal (PP&L)	26	34S	6E	4200
5	Fort Klamath (PP&L)	22	33S	7½E	4150
6	Kirk (PP&L)	1	33S	7E	4533
9	Quartz Mountain (PP&L)	33	37S	16E	5504
8	Harriman Lodge (PP&L)	3	39S	6E	4200
12	Yamsay (PP&L)	20	31S	11E	4600

LAKE COUNTY, GOOSE LAKE WATERSHEDS (11)

Goose Lake

20G15a	Bear Flat Meadow	27	36S	19E	5900
20G8MP	Camas Creek	5	39S	21E	5720
20G11a	Cox Flat	16	37S	18E	5750
20G16a	Crane Mountain	13	40S	21E	6020
20H2a	Crowder Flat (Cal)	30	47N	11E	5200
20H3a	Dismal Swamp (Cal)	31	48N	16E	7200
20G17a	Fatton Meadow	28	38S	18E	6800
20G6MP	Quartz Mountain	2	38S	16E	5320
20H1a	State Line (Cal)	21	48N	11E	5750
20G9AP	Strawberry	4	40S	16E	5760

Abert Lake

20G15a	Bear Flat Meadow	27	36S	19E	5900
20G18AP	Colvin Creek	12	36S	21E	6550
20G11a	Cox Flat	16	37S	18E	5750
20G14a	Finley Corrals	11	36S	16E	6000
20G4	Mill Creek	1	34S	17E	6200
20G6MP	Quartz Mountain	2	38S	16E	5320
20G10a	Sherman Valley	15	37S	21E	6600

Summer Lake

20G2AP	Summer Rim	15	33S	16E	7200

Silver Lake

21F12P	Silver Creek	25 & 26	29S	13E	4900
20G13a	Sycan Flat	25	31S	14E	5500

Warner Lake

20G6MP	Canna Creek	5	39S	21E	5720
20G16a	Crane Mountain	13	40S	21E	6020
20H3a	Dismal Swamp (Cal)	31	44N	16E	7200
19G1a	Hart Mountain	1	36S	25E	6350
20G10a	Sherman Valley	15	37S	21E	6600

Guano Lake

19H1	Bald Mountain (Nev)	17	45N	21E	6720
19G1a	Hart Mountain	1	36S	25E	6350
19H4a	Little Bully Mt. (Nev)	8	45N	19E	6600

HARNEY BASIN WATERSHED (12)

Silvies River - Silver Creek

18E2a	Call Meadows	29	20S	33E	5 440
18E2	Enlistment Lake	28	19S	26E	5600
19E3	Emigrant Butte	14	21S	27E	5000
18E3P	Silvertip Camp	27	20S	31E	5200
19E2P	Izee Summit	28	16S	29E	5293
18E1	Rock Spring	23	18S	32E	5100
19E1M	Snow Mountain	1	19S	26E	6300
19E7M	Starr Ridge	20	15S	31E	5150
18E9MP	Stinking Water	33	21S	34E	4800
19E2a	Willow-Bald	19	22S	29E	5000

Donner Und Blitzen River

18E6a	Buck Pasture	21	29S	35E	5700
18E2MAP	Elk Creek	4	33S	32½E	7900
17G1a	Hart Mountain	1	36S	25E	6350
18G1MA	Silvies	35	32S	32½E	6900
18G7a	"W" Lake	31	35½S	32½E	6600

Trout and Whitehorse Creeks

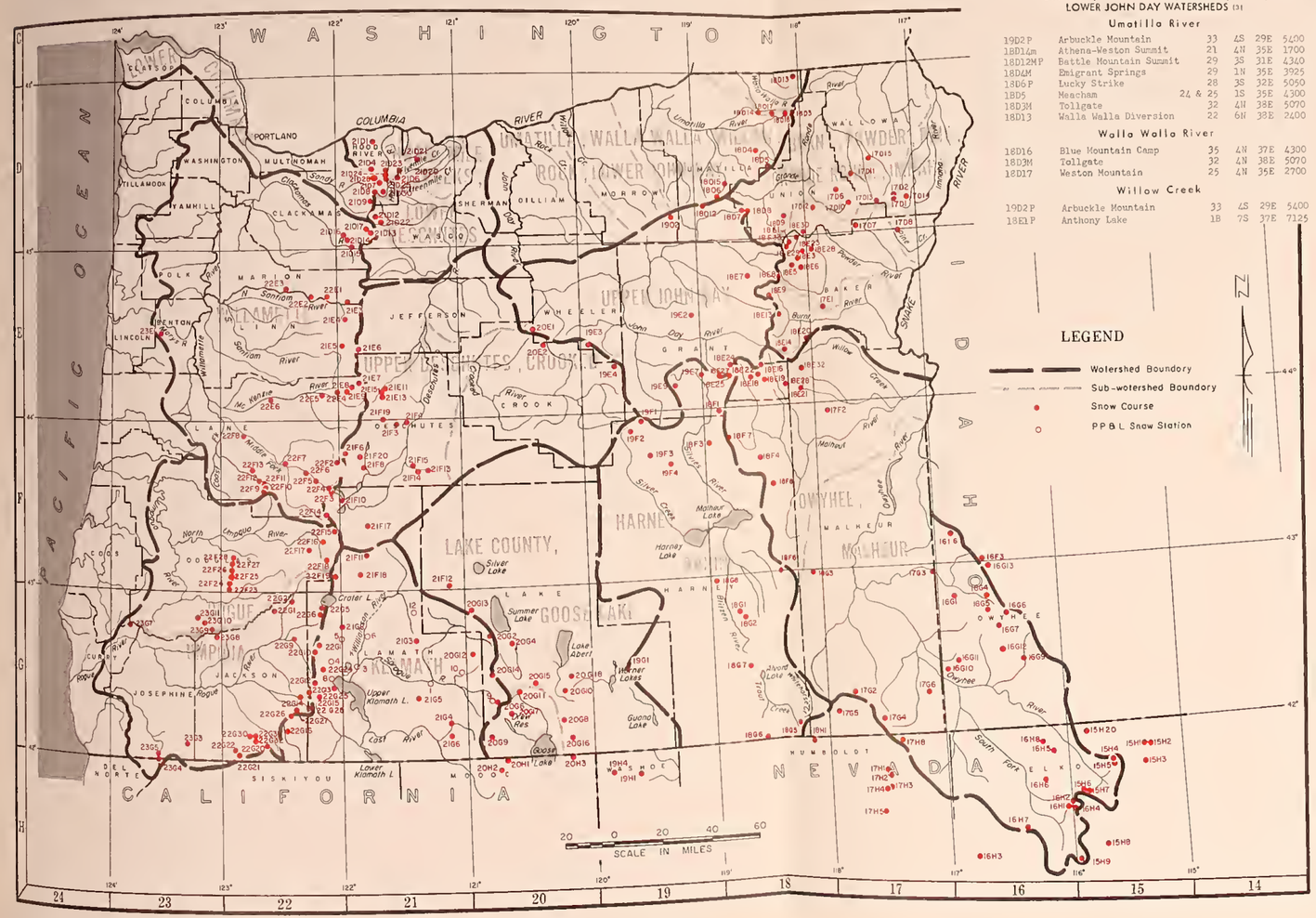
18E6a	Buck Pasture	21	29S	35E	5700
18E2MAP	Elk Creek	4	33S	32½E	7900
17G1a	Hart Mountain	1	36S	25E	6350
18G1MA	Silvies	35	32S	32½E	6900
18G7a	"W" Lake	31	35½S	32½E	6600

Harney Lake

18G8a	Buckskin Lake	2	30S	30E	5200

LEGEND

19D3	SNOW COURSE ONLY
19D2M	SNOW COURSE AND SOIL MOISTURE
19D2MA	SNOW COURSE, SOIL MOISTURE AND AERIAL MARKER
19D2A	SNOW COURSE AND AERIAL MARKER
19D2m	SOIL MOISTURE ONLY
19D2*	AERIAL MARKER ONLY
19D2P	SNOW COURSE AND PRECIPITATION GAGE
19G2P	PRECIPITATION GAGE ONLY
*	RADIO TELEMETRY



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE USDA-SCS PORTLAND, OREG 1965 M-1874

Map and Index to OREGON SNOW COURSES

Ha

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE
- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon State University
- Oregon Stote Engineer and Corps of State Watermosters
- Oregon State Highway Engineers
- Soil ond Water Conservation Districts of Oregon

COUNTY
- Douglos County Water Resources Survey

FEDERAL
- Department of Agriculture
  - Cooperative Extension Service
  - Forest Service
  - Soil Conservation Service
- Department of Commerce
  - Weather Bureou
- Department of the Interior
  - Bonneville Power Administration
  - Bureau of Land Manogement
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey
  - National Park Service
- Department of National Defense
  - Corps of Army Engineers

PUBLIC UTILITIES
- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific Utilities Compony

MUNICIPALITIES
- City of Baker
- City of Lo Gronde
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS
- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Hood River Irrigation District
- Jordan Valley Irrigation District
- Juniper Flat Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- Middle Fork Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warmsprings Irrigation District

PRIVATE ORGANIZATIONS
- Amalgamated Sugar Company
- The Crag Rats, Hood River, Oregon

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